Public Comments Received, September 2007:

310 CMR 7.70 "Massachusetts CO_2 Budget Trading Program"
and Amendments to: 310 CMR 7.00 et seq.:
310 CMR 7.29 "Emissions Standards for Power Plants" and
310 CMR 7.00: Appendix B(7) "Emission Banking, Trading, and Averaging"

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Associated Industries of Massachusetts

September 24, 2007

Nicholas Bianco
MassDEP
One Winter Street
6th Floor
Boston, MA 02108

Robert Sydney
Division of Energy Resources
100 Cambridge Street
Suite 1020
Boston, MA 02114

Re: Proposed DEP Regulations 310 CMR 7.70 - CO2 Budget Trading Program; 310 CMR 7.29 - Emissions Standards for Power Plants; 310 CMR 7.00 Appendix B (7) - Emission Banking, Trading, and Averaging; Proposed DOER Regulations 225 CMR 13.00 - CO2 Budget Trading Program Auction Regulation

Dear Mr. Bianco and Mr. Sydney:

Associated Industries of Massachusetts is the largest employer association in Massachusetts. A.I.M.'s mission is to promote the well-being of its more than 7,000 members and their 680,000 employees and the prosperity of the Commonwealth of Massachusetts by improving the economic climate, proactively advocating fair and equitable public policy, and providing relevant, reliable information and excellent services. A.I.M. members include large and small employers from the industrial, commercial and service sectors, all of who would be impacted by this proposal.

The proposals referenced above, jointly issued by the Department of Environmental Protection (DEP) and the Division of Energy Resources (DOER) would establish regulations to implement a regional program to reduce greenhouse gasses from electricity generating plants in the Commonwealth.

While everyone, including members of the business community, are rightly concerned about climate change and the impacts carbon dioxide ($CO_{2)}$ has on that dynamic globally, we believe these regulations, as currently proposed, will negatively affect the state's economy and the economic well being of businesses in Massachusetts as they will lead to higher electricity prices, instability in the wholesale electric market and will not result in worldwide reductions in carbon dioxide.

It is no secret that electricity costs in Massachusetts are near or at the highest in the nation, due in large measure to the fact that the New England region relies on natural gas for over 40% of its electricity production, a dangerously high level that not only impacts prices but also inhibits our fuel diversity with concomitant implications for fuel security. The majority of the time natural gas prices determine the market price of electricity on the spot market. Since natural gas is the highest price fuel, it follows that electricity prices will be high. A.I.M., in comments going back several years, constantly warned that the policies and regulations that were being developed which prohibited, implicitly or explicitly, the construction of non natural gas fired power plants was shortsighted, would drive up the price of electricity and inflict economic damage on the economy of the Commonwealth, and virtually eliminate cost sensitive business segments of our economy.

Unfortunately, those predictions have come true. Today, our reliance on natural gas for power production is at record highs and has made it virtually impossible to manufacture products in Massachusetts that are price competitive, harming local economies of older industrial cities, and in some cases threatening to wipe out the significant commercial taxpayers in some western Massachusetts communities. This trend is likely to continue with the implementation of the requirements of the regional greenhouse gas initiative.

Just this year alone, the high cost of electricity and other operating costs have forced some of the states longest operating companies to abandon operations here. These include: Revere Copper Products in New Bedford, founded in 1801; Fox River Paper Products of Great Barrington, founded in 1900; MeadWestvaco in South Lee, one of a two-plant paper operation that has been in operation for over 200 years and Springfield Wire and Cable, founded in 1921. Total job loss in these and other closures this year totaled over 2000.

It is particularly unfortunate that these and other companies with long histories in Massachusetts (and indeed were often founded here) have decided to abandon the Commonwealth with its natural beauty, educated workforce, and even willingness to be leaders in reducing CO_2 through the first in the nation CO_2 power plant rules (7.29) and other pollutants. It is striking that all these companies are ongoing profitable entities and have major operations in other states – they just decided it was not profitable to have operations in Massachusetts. Massachusetts has lost hundreds of thousands of manufacturing jobs from the peak several years ago, and there is now an exodus of educated workers to other low-cost areas. Electricity, of course, is not the exclusive reason for these economically challenging results. However, because electricity is used in every business and home, high costs of electricity translate into the need for higher wages, higher home prices, higher health care costs and higher costs for municipalities which result in higher taxes.

A.I.M. members, specifically those in the medium and large commercial sector and in the industrial sector, constantly cite the price of electricity as one of the impediments to expanding or staying in Massachusetts, and data shows that the large commercial and industrial load is declining in most utility territories. Preliminary results from our current energy survey indicates that almost 50% of the respondents believe that high electricity costs will drive future investment decisions in Massachusetts or will determine the future of existing operations here. Only 5% indicated electricity costs are not a problem. Unlike many homeowners, whose sensitivity to marginal increases in electricity costs may not be great, C&I customers are extremely sensitive even to small increases on the order of a quarter cent per kWh, as such an increase could mean hundreds of thousands of dollars in additional costs and threaten profitability for the year. Almost 80% of our survey respondents indicated that higher electricity rates have cut their profit margin and forced them to cut back on employee salaries and benefits, or forced them to stop making certain products in Massachusetts.

Simple analysis indicates that these regulations will increase costs to consumers. Any costs paid for CO_2 allowances needed to produce electricity will be passed along to consumers in the form of higher electricity prices over time. Unfortunately, the easiest way to comply with these regulations will be to burn more natural gas to produce electricity, an unwelcome outcome. Since even gas plants need to purchase allowances, it will even increase the already high price for electricity produced by natural gas.

The state is losing the diversity of its generation sources and this regulation will only accelerate that trend. As stated earlier, we are already dangerously reliant on natural gas for our electricity needs. We need to protect every existing non-gas fired power plant – indeed we may need more. These proposals not only penalize the non-gas baseload units which act to moderate prices but also ignore the growth in the demand for electricity as they do not provide additional allowances for this growth. While some believe we may be able to handle growth in the demand for electricity by investing more in conservation or renewables, the fact is that despite all the investments to date the Commonwealth has made in conservation, renewables and demand response programs (hundreds of millions of dollars), the demand for electricity is growing at historic rates and the likelihood is that continued growth will occur. A reliable, reasonably priced electricity system is critical to business, just as it is critical to every electricity

consumer in the Commonwealth. Our zero-growth policies are sending negative signals to companies who may want to invest in Massachusetts but see nothing but high prices and shortages ahead for electricity.

The proposed regulations may not even reduce greenhouse gas emissions significantly, if at all. Many companies have moved production out of state to non-RGGI states or in some cases foreign countries. Without a doubt, increased emissions of CO_2 and other pollutants will result from increased electricity demand where those jobs have relocated with pollution multiple times greater than it would be in Massachusetts, particularly under existing CO_2 regulations.

This raises the issue of leakage which has a similar counterintuitive outcome and which has never been fully addressed by the working groups or by these proposed regulations. Leakage occurs when power plants outside the RGGI region, unencumbered by the CO_2 restrictions in the RGGI states, produce lower cost power but with much higher air emissions and deliver the electricity to the RGGI states. Pennsylvania and states in the mid-west will build power plants and ship their electricity and in effect the emissions from those plants will increase global CO_2 levels. Proponents of these regulations (and even DEP in their background documents) have admitted that leakage is a serious concern that has not been addressed.

Massachusetts has also sacrificed by agreeing to RGGI limits on CO_2 allowances which in effect penalize consumers in the Commonwealth for having stringent CO_2 regulations already on the books and that have reduced CO_2 emissions already. This occurred when the state agreed to use base years other than 1990, which almost all CO_2 programs in the nation use. Had the earlier year been used for Massachusetts, the Commonwealth's early regulatory initiatives and responses by power plant owners would have been rewarded and in effect not penalized. Ultimately, of course, it is the electricity consumers who pay the bill.

A.I.M. also has several concerns with DOER's auction process.

First, the proposed DOER section 13.06(8) provides that "proceeds of such auction shall be deposited into [DOER's] Credit Trust Account and shall thereafter be available for expenditure by [DOER] subject to the approval of the Secretary." M.G.L. c. 25A sec. 13 provides that amounts spent out of the Trust are "subject to appropriation." Accordingly, DOER's draft regulation which provides the Secretary with unfettered discretion to spend the auction proceeds is inconsistent with its statutory mandate. We urge DOER to amend the regulation to make it consistent with the appropriate legislative mandate or seek specific authority from the Legislature for bypassing the normal appropriation process.

Also of concern in 13.06(8) is the makeup of the advisory group to advise the secretary on how to spend the proceeds of the auction. The proposed regulations state that "[DOER] shall convene an advisory group of stakeholders representing a broad array of energy and environmental interests on how best to utilize said funds". This is hardly a diverse stakeholder group. Any proceeds of this auction ultimately come from ratepayers and the fund could easily total $100 million dollars or more, possibly more than the current energy efficiency program run by the utilities. The advisory groups need to be much more formally identified and much more diverse to avoid potential conflict of interest. The way this proposal is stated, there is not one representative who represents ratepayers, business or residential, the Attorney General's office (who by statute is the consumer advocate) or any other group who would be interested in making sure these funds are spent wisely from the consumers' point of view. Instead, the DOER has chosen groups who have self-interest in seeing this money spent a certain way and may even have conflicts of interest in discussing the ultimate disposition of this money. We urge the DOER to develop a formal advisory committee made up of environmental, business and residential representatives, as well as the Attorney General, DEP, and the Executive Office of Housing and Economic Development. Energy groups and others who will directly benefit from the disposition of these funds should be non-voting advisory members of the formal advisory group.

Also, unlike the current utility energy efficiency program, which only impacts customers of regulated utilities because the charge is on the user, the proceeds of this program will come from consumers in municipal light departments, either because municipal light departments who produce their own power have to buy credits to produce power or because municipal light departments purchase power from sources that need credits to operate. Therefore, there also needs to be a municipal light representative on the advisory council and monies also need to be distributed to those ratepayers. There should also be clear voting guidelines and other procedural items in the regulations to avoid controversy later. The DOER should meet with stakeholders on this issue prior to issuing formal regulations. Clearly, this advisory council is not a simple undertaking.

In past conversations it has been suggested that this money would be used for everything from local aid to rewarding cities and towns for purchasing green power. A.I.M. has opposed the use of these monies other than for direct rebates to consumers for energy efficiency upgrades. We appreciate that the ultimate use of this money is explicitly stated and DOER should rigorously oppose any group that wants to divert this money from energy efficiency programs. A formal and consumer centered advisory group will make sure this does not happen.

In 13.06(7) DOER indicates that the auction may be held with or without a reserve price (which will not be disclosed). We believe this is not only unnecessary but may in fact lead to conflict of interest allegations. DOER, by establishing a reserve price is essentially saying that the market cannot determine the price of the allowances, but DOER will artificially do it. This leads to an unusual outcome. If affected sources reduce their emissions of CO_2, prices of allowances will fall and therefore electricity prices will stabilize; this is a good outcome. But if DOER adopts a reserve price (no matter what the price is), no matter how much emissions decrease, the price for allowances, and hence the prices paid for electricity by consumers will not go down, a bad outcome. While DOER may be doing this for a good reason – presumably to maximize the money collected in the fund for energy efficiency – it is not good public policy to manipulate markets. We urge DOER not to put itself into this position and rather let the marketplace determine the price of allowances as was intended and we therefore urge the DOER to rewrite the proposed regulations so this is a transparent process.

In 13.08(1) DOER is adding unnecessary volatility to the electricity market. This section proposes that non-budget generators be allowed to bid in the first auction. This will inject unnecessary volatility and the potential for gaming into the marketplace. These non-budget generators are not looking out for the interests of Massachusetts or the consumers in Massachusetts – they are looking to profit in a secondary market by exploiting shortages. Non-generators should not be allowed to bid on allowances, at least initially, until the market has more fully matured

Because of these two proposals (reserve price and non-generators bidding for allowances), the price paid for electricity is likely to be volatile and difficult to predict. Since the majority of electricity is sold in bilateral contracts, and many businesses prefer predictable long-term contracts (three years) over short-term contracts, it will be extremely difficult for suppliers to establish firm priced contracts. One of the frustrations of many businesses is that even small changes in the price of electricity can cost hundreds of thousands of dollars in unbudgeted costs. This entire auction process is so new and untried that we urge DEP and DOER to proceed slowly and cautiously, so as not to create an artificial and unintended crisis or spike in electricity prices, even if it is temporary.

Finally, AIM would like to make a comment about the economic impacts and cost benefits of this proposed regulation as described in the economic impact portion in the background document. This is an area where we believe agencies have always faltered and these proposed regulations are no exception. The economic analysis is very inadequate for such a significant program. It is very easy to calculate the economic impact of these regulations using existing comparisons. Currently, the energy efficiency program run by the utilities generates approximately 125 million dollars per year in ratepayer funds as a result of 0.25 cent per kilowatt charge on electric bills (costing some individual A.I.M. members over $200,000 dollars per year). Therefore, DEP could do a calculation on the expected costs of this program by estimating the cost of the allowances using comparisons to the utility efficiency program.

While DOER states that money generated from this program will be used for energy efficiency and the cost of electricity will actually decrease, this completely ignores historical fact. While A.I.M. believes energy efficiency and conservation is good, there should be no expectation it will result in meaningfully lower prices. Except for Vermont, Massachusetts already spends the highest per capita amount on energy efficiency (and has been for decades) yet we have the highest electricity rates in the nation. In addition, there is no guarantee that the money will be used or appropriated in accordance with the wishes of the secretary. We believe the costs of the program should be spelled out and the savings should be quantified and couched as speculative at best. Also, the increase in costs will be immediate and will affect everyone, even those who have already installed the latest energy efficiency products (another case of being penalized for being a leader) while efficiency will take years to lower prices. In our energy survey almost 50% of the respondents have cut their use of electricity yet their cost has risen. It is not enough to say that prices would have been worse had it not been for conservation. That is a rationalization not an economic analysis. If there is another 0.25 cent increase in the cost of electricity (a likely outcome if the allowances are priced at only about 4.50 dollars per ton for example), we believe some companies will not be around to take advantage of the energy efficiency programs contemplated in these regulations.

In sum we believe these regulations as proposed will be detrimental to the economy of Massachusetts as it will cause an increase in the price of electricity with potentially little benefit to society or Massachusetts. We urge both DEP and DOER to work with stakeholders to make these regulations more flexible and more transparent.

Should you have any questions please do not hesitate to contact me at 617-262-1180.

Respectfully submitted,

Robert A. Rio, Esq.
Senior Vice President and Counsel
Government Affairs

Business Council for Sustainable Energy

September 24, 2007

To:	Nicholas Bianco, Massachusetts Department of Environmental Protection
	Robert Sydney, Massachusetts Division of Energy Resources
Regarding:	BCSE Comments on Massachusetts CO_2 Budget Trading Program
Submitted Via Email to:	Nicholas.M.Bianco@state.ma.us Robert.Sydney@state.ma.us

On behalf of the members of the Business Council for Sustainable Energy (the Council), we appreciate the opportunity to provide comments on the proposed regulations for the Massachusetts CO_2 Budget Trading Program. As our comments to both Massachusetts Department of Environmental Protection (MassDEP) and Massachusetts Division of Energy Resources (DOER) are related, the Council has chosen to submit a joint letter to both agencies.

The Council would like to offer a general comment: The Council recognizes that several opportunities remain untapped to make clean energy technology deployment more central to program design of the Massachusetts CO_2 Budget Trading Program, particularly through specific, dedicated use of auction revenues. This is of critical importance because increased deployment of existing clean energy technologies – such as demand- and supply-side energy efficiency and renewables – will be a key element of keeping the cost down of the Regional Greenhouse Gas Initiative (RGGI). As outlined below, greater emphasis on clean energy deployment can be achieved through design elements such as set asides from auction proceeds and other policies. In particular, the Council is concerned that 1) non-polluting renewable energy sources, clean generation and energy efficiency were not recognized by 310 CMR 7.70 as recipients of direct allowance value by utilizing an output-based allocation scheme; and, 2) the language contained in MassDOER's proposed auction regulation 225 CMR 13.00 regarding the use of auction proceeds for clean energy is vague and does not specifically mention "renewable" or "clean" energy among other stated goals. Further, it is unclear how an annual decision-making process regarding the distribution of auction proceeds will provide enough certainty to clean energy project developers and other beneficiaries of auction revenues to allow for consistent growth in Massachusetts' clean energy market.

Introduction

The Business Council for Sustainable Energy is a broad-based coalition of energy efficiency, natural gas and renewable energy industries that advocates energy and environmental policies that promote markets for clean, efficient and sustainable energy products and services. The Council's coalition includes power developers, equipment manufacturers, independent generators, green power marketers, retailers, and gas and electric utilities, as well as several of the primary trade associations in these sectors.

The Council and its members have advised legislators and regulators on the development of domestic and international clean energy, clean air and climate change initiatives for over a decade. The Council's coalition represents available technologies that offer vastly deployable solutions to energy challenges and global climate change.

The Council continues to participate actively in the RGGI stakeholder process and has met with many working group members and agency heads during the past several years. Our members view RGGI as an important vehicle to reduce greenhouse gas emissions and create a workable national model to address climate change.

Please be aware that not all Council members work on, or take positions on, RGGI.

Dedicated Use of Auction Proceeds to Benefit Energy Efficiency, Renewable Energy and Clean Generation

The Council specifically requests the opportunity to participate in the advisory group of stakeholders that will be formed to advise the Secretary of the Executive Office of Energy and Environmental Affairs (the Secretary) on how best to utilize the auction proceeds (DOER CO_2 Budget Trading Program Auction Regulation 225 CMR 13.00, 13.06 (8), p.5).

The Council's primary concern with the proposed auction regulation is the lack of specificity of stated goals for the utilization of auction proceeds, in particular as this pertains to renewable energy and clean generation. While energy efficiency is included in the list of explicitly stated goals, renewable energy and clean generation are not included in this list (DOER CO_2 Budget Trading Program Auction Regulation 225 CMR 13.00, 13.06 (8), p.5). Renewables and clean generation have long been priorities of the Commonwealth, and therefore it could be interpreted that renewables and clean generation would indeed fall under the category of "other strategic energy goals of the Commonwealth" eligible for auction proceeds; however, the Council strongly encourages DOER to add further specific language to 13.06(8) including "renewable energy" and "clean generation," as directly stated goals rather than leave these goals to interpretation.

As Massachusetts has not chosen to use an output-based allocation methodology and has not elected to use a consumer benefit or strategic energy purpose allocation, the auction proceeds provision has the most potential of the entire CO_2 Budget Trading Program to focus funding toward clean energy activities and advance a more sustainable regional energy future. It is imperative that the Secretary's actions vis-à-vis the distribution of auction revenues provide as much certainty as possible to send clear and consistent signals to the clean energy market. The Council is concerned that an annual decision-making process on the distribution of auction proceeds would not provide enough certainty to clean energy project developers, potentially resulting in the unintended consequences of impeding clean energy project development and creating undue administrative burden.

We are aware that Massachusetts already has a wide array of incentives to encourage renewables and energy efficiency including:

- Massachusetts Technology Collaborative (MTC) grant and loan programs for energy efficiency and renewablesMassachusetts Division of Energy Resources (DOER) Renewable Portfolio Standard (RPS)
- Massachusetts DOER and Massachusetts Department of Revenue's various tax exemptions for renewable and energy efficiency projects

Even with these admirable programs, there is still more that can be done to promote clean, cost-effective renewable and energy efficiency projects in Massachusetts. Specific, transparent and dedicated use of the Commonwealth's RGGI auction proceeds can be used to achieve these objectives. The Council offers the following list of criteria to ensure that auction revenue is directed to provide the greatest benefit. These criteria include:

1. Reduce the carbon intensity of electric generation
2. Reduce energy demand
3. Provide benefit to the state's economy
4. Promote private investment through partial funding of investments
5. Enhance complementary energy program benefits
6. Help establish new energy programs
7. Increase the market potential of new technologies

Voluntary Renewable Energy Account

The Council commends MassDEP for inclusion of a voluntary renewable set-aside provision – the Voluntary Renewable Energy Account (VRE) – under the Massachusetts CO_2 Budget Trading Program (310 CMR 7.70. p.26-27). Beyond increasing the use of renewables within utilities' portfolios under the state's RPS, the customer-driven voluntary renewables market is an important catalyst for renewable energy development in the Commonwealth and the VRE provision will increase compatibility between the cap-and-trade program and the voluntary market.

To encourage further growth in Massachusetts' voluntary market, the Council recommends that the credits retired through the VRE grow in proportion to the size of the Commonwealth's voluntary market, rather than be capped at a maximum of 200,000 CO_2 allowances to be retired per year. For example, if the voluntary market grows beyond the estimated 300,000 to 400,000 MWh of qualified renewable energy[1] associated with 200,000 credits, MassDEP should reevaluate the allotment to avoid false limitations on consumer choice and market demand. This will ensure that Massachusetts customers who purchase renewable energy through the voluntary market are indeed receiving the environmental benefits they have sought to buy. Further, generation from renewables and combined heat and power via the customer-driven voluntary market benefits state economic interests and all ratepayers, as capital costs for the additional generation are borne by the customer.

Conclusion

We appreciate the opportunity to share our perspectives with you. If you have any questions, please feel free to contact me at (202) 785-0507 or via email at ljacobson@bcse.org.

Sincerely,

Lisa Jacobson
Executive Director

[1] See *Background Information and Technical Support Document for Proposed Adoption of 310 CMR 7.70 "Massachusetts CO2 Budget Trading Program" and Amendments to: 310 CMR 7.00 et seq.: 310 CMR 7.29 "Emissions Standards for Power Plants" and 310 CMR 7.00: Appendix B(7) "Emission Banking, Trading, and Averaging,"* Section J, p. 11.

Ceres

Massachusetts Department of Environmental Protection (DEP)
Subject: RGGI (Regional Greenhouse Gas Initiative) Draft Rule Hearing
Ceres testimony by: Dan Valianti, Manager Northeast Climate and Energy;
Dan Bakal, Director Industry and Electric Power
September 12, 2007

Ceres is a nonprofit coalition of investors and environmental groups that works with businesses on a range of critical environmental issues, especially including global warming.

Global warming is finally being recognized for the enormous challenges that is poses, and it is becoming increasingly clear that our entire energy economy must transition to a much cleaner one over the coming decades and that transition must begin now.

For that reason, in March of this year, Ceres and our Investor Network on Climate Risk mobilized investors and companies with $4 trillion in assets to call on the federal government to take aggressive action on the issue by enacting a mandatory national policy to reduce greenhouse gas emission to 60-90% below 1990 levels by 2050.

We hope that the federal government acts soon, but we also know that it may take some time to develop. That is why it is so critical for Massachusetts and our neighboring states to lead the way through effective implementation of the Regional Greenhouse Gas Initiative. In implementing RGGI, it is important that we learn from the successes and challenges of the European Union's emissions trading program. If we learn one lesson from that effort, it is that we should not give allowances away for free.

That is why it was a big step when the Governor Patrick signed Massachusetts onto RGGI and pledged that 100% of the allowances would be sold at auction and the proceeds used to support new energy efficiency measures and programs.

Massachusetts' job is to tackle these matters urgently, effectively and put in place a system that ensures the successful implementation of this important and historic regional cap-and-trade program. In order for Massachusetts businesses, institutions and residents to see a reduction in actual energy costs or bills while the rate or price of energy may rise, we must follow the lead of a state like California where they have some of the highest rates for energy but also lower than average energy bills. This is due to their massive investment in energy efficiency and conservation over the past decades. Further, if we in Massachusetts and the RGGI states embrace this challenge as opportunity, we too can drastically cut consumption and bring down energy bills, while we upgrade our infrastructure, economy and gain competitive advantage over other regions.

So that when there finally is a national policy and price put on carbon we, the Northeast will have already built a low-carbon energy infrastructure, and Massachusetts will have led the way.

We need to take advantage of this moment in time. Never before have we so clearly understood the sobering science of global warming but also never before were we presented with a vehicle like RGGI to begin to address it. We wish to applaud the environmental and public interest advocates and all the public officials who have toiled for several years to help develop RGGI in to the effective vehicle we see it becoming.

At Ceres, we have been taking these issues to the business community by engaging with large Northeast based corporations to advance a clean energy agenda. Our aim is to forge consensus amongst environmental and business leadership in the region. Only by reaching this consensus can we hope to achieve these urgent environmental and economic goals.

Thank you. Ceres

Citizen Letter

Note: over 600 copies of the following letter were sent by individual citizens to the Secretary of Energy & Environmental Affairs.

Secretary Ian Bowles
99 Chauncy Street, Sixth Floor
Boston, MA 02111

Dear Secretary Bowles,

I'm writing to applaud our state's participation in the Regional Greenhouse Gas Initiative (RGGI), and express my appreciation for the hard work you and your staff are doing to make it happen. However, the threat of global warming is so severe that Massachusetts--and the entire Northeast--must fully embrace every available strategy to combat it, including voluntary purchases of renewable energy.

I urge you to change the proposed regulations to support the voluntary purchases of renewable energy by homeowners, businesses, and institutions. Please remove the arbitrary limit on these purchases. The RGGI regulations should fully account for the reduction in global warming pollution that these voluntary purchases provide by reducing the amount of pollution allowed from electricity generators that burn fossil fuels.

We in Massachusetts have a unique opportunity--and, as a leading source of the technologies involved, a strong self interest--in not only reducing global warming pollution in the region but also demonstrating leadership for other states, regions, and the nation.

Please ensure that the RGGI framework is as strong and comprehensive as possible by changing the Commonwealth's final rule to fully account for voluntary purchases of renewable energy.

Sincerely,

Community Energy, An Iberdrola Company

September 24, 2007
Via e-mail:

Nicholas Bianco
Massachusetts Department of Environmental Protectoin
Robert Sydney
Massachusetts Division of Energy Resources
Dear Messrs. Bianco and Sydney:

Thank you for this opportunity to comment on the proposed regulations for the Massachusetts CO2 Budget Trading Program. Community Energy, Inc. is the wholly owned subsidiary of Iberdrola Renewable Energies USA, based in Radnor, Pennsylvania. Community Energy, Inc. is partnering with fourteen electricity suppliers in Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania and Maryland to provide customers with voluntary renewable energy credits linked directly to renewable energy production. In Massachusetts Community Energy, Inc. is partnering with Massachusetts Electric to provide residential customers with a green power option. As a subsidiary of Iberdrola Renewable Energies USA, Community Energy, Inc. has access to a national wind energy project pipeline that ensures that voluntary renewable energy credits (RECs) purchased by electricity consumers go directly to financing the construction of new wind farms.

Community Energy, Inc. commends Massachusetts for the inclusion of the voluntary renewable setaside provision – the Voluntary Renewable Energy Account (VRE) – in the Massachusetts CO2 Budget Trading Program. The voluntary market is a key driver of renewable energy development in the Commonwealth. To encourage the continued growth of voluntary market and zero emission renewable energy sources, Community Energy Inc. recommends that Massachusetts DEP eliminate the cap provisions of the VRE in the final rule, and instead retire allowances in proportion to the actual contribution of the voluntary market to CO2 reductions in the Commonwealth. This ensures that voluntary renewable energy purchases are having the maximum positive effect on emissions reductions.

Our advocacy for eliminating the cap and promoting voluntary renewable energy purchases to the maximum extent is based on the following:

1. Renewable energy reduces emissions of greenhouse gases. When renewable energy generators are dispatched in ISO-NE, NYISO, or PJM other fossil-based resources are displaced, thereby reducing emissions of carbon dioxide. However, in order for these reductions to be realized in an allowance based system, allowances equivalent to the reduction must be retired.

2. RGGI already accounts for greenhouse gas reductions from renewable portfolio standard requirements. It is my understanding that greenhouse gas reductions resulting from renewable portfolio standards are already counted in the RGGI state baselines for purposes of allowance allocations. This approach ensures that renewable energy projects committed to RPS compliance are able to claim that investments in those projects are actually resulting in reduced emissions. Renewable energy from projects in which RECs are sold on the voluntary market deserve the same consideration.

3. Voluntary renewable energy purchases result in “additional” new renewable energy. Community Energy and Iberdrola use the revenue generated by voluntary renewable energy customers to finance the construction of new wind farms. As a result, the voluntary purchase of renewable energy leads directly to a reduction of greenhouse gas emissions through the displacement of fossil fuel resources (as discussed above).

4. Renewable energy, along with energy efficiency, are often sited as two costs effective ways to permanently reduce long-term concentrations of greenhouse gases. Despite the known environmental threat posed by global warming, which RGGI is specifically attempting to address, there are vocal

opponents of renewable energy, especially wind farms. In our experience opposition to wind farms usually revolves around aesthetics with renewable energy opponents adopting whatever technical arguments they can to strengthen their case. One argument that renewable energy opponents are making throughout the east coast is that wind farms do not reduce pollutants because cap and trade systems do not retire allowances commensurate with renewable energy system reductions. When sulfur dioxide trading was established through the Clean Air Act policy-makers did not have the benefit of understanding this unfortunate ramification, however, RGGI decision-makers now have the advantage of understanding the interaction between renewable energy systems and cap and trade programs. Not retiring allowances associated with the voluntary purchase of renewable energy gives credence to claims of opponents of renewable energy and will make it even more difficult to site necessary wind energy projects. Opponents do not differentiate between projects selling voluntary RECs or compliance RECs and will seize on any "loophole" to make their case.

5. Households, businesses, universities, and other institutions in Massachusetts pay a premium to voluntarily purchase renewable energy products and expect to be able to claim emission reductions. These individuals and entities are voluntarily purchasing renewable energy, in part or in total, as a means to offset their carbon emissions. In order to make those claims RGGI must reduce a number of allowances commensurate with a voluntary renewable energy purchase. Failure to implement the voluntary market allowance retirement provisions will diminish the value of voluntary renewable energy credits and reduce the stream of revenue available to develop new wind farms in the state and in the region. This outcome would have the reverse affect intended by RGGI – reducing incentives for emission-free renewable energy, limiting retail customer choice, and providing additional allowances to greenhouse gas emitting sources.

If you have any questions, please contact me at 484-654-1887 or ethumma@iberdrolausa.com.

Community Energy, Inc. looks forward to remaining engaged in this rulemaking process and thanks you for your time and attention to these comments.

Sincerely,
Eric Thumma
Director, Policy and Regulatory Affairs

September 24, 2007

Via Email
Nicholas Bianco
MassDEP
One Winter Street, 6th Floor
Boston, MA 02108

Robert Sydney
DOER
100 Cambridge Street, Suite 1020
Boston, MA 02114

Re: Proposed Carbon Dioxide (CO2) Budget Trading Program

Dear Mr. Bianco and Mr. Sydney:

The Conservation Law Foundation ("CLF") offers the following comments regarding the implementing regulations for the CO2 Budget program and the allowance auction that is an integral part of that program (collectively, "the RGGI regulations").

Our specific comments, which follow a brief introduction and presentation of context, have three components. First, we address the issues regarding the allowance auction design and rules, allowance revenue spending and related questions that fall uniquely without the jurisdiction of the Massachusetts Division of Energy Resources ("DOER"). Next, we focus on the regulations of the Massachusetts Department of Environmental Protection ("DEP") and the issues that are wholly specific to those regulations and the role that DEP plays. Lastly, we focus on the "cross-cutting" questions that play out in both sections, in larger policy questions that will shape the regional implementation process and the continued process of turning this CO2 Budget Program and the larger RGGI effort into a more effective tool in the fight to control greenhouse gas emissions.

I. Context and Introduction

DEP and DOER do not need any education on the absolute need to shift our economy and society to a clean energy path - reducing the constant drain on our economy due to the export of money from the Commonwealth to purchase high carbon fossil fuels while simultaneously beginning the essential task of reducing our greenhouse gas emissions.

As the DEP staff knows, this last task of reducing greenhouse gas emissions is not about some abstract need to protect the planet as a whole – it is about protecting the Commonwealth and its citizens. We should not forget that earlier this year the U.S. Supreme Court predicated its groundbreaking decision in Massachusetts v. EPA[2] on a determination that the Commonwealth (and by extension the other plaintiffs/petitioners which, we are proud to note, include CLF) had standing to bring the case, at least in part, because of "Massachusetts' well-founded desire to preserve its sovereign territory today." Massachusetts v. EPA, 127 S.Ct. 1438, 1454 (2007). The court found that the "injury" to the Commonwealth from rising sea levels caused by global warming were real and imminent, specifically noting that, "The severity of that injury will only increase over the course of the next century. If sea levels continue to rise as predicted, one Massachusetts official believes that a significant fraction of coastal property will be either permanently lost through inundation or temporarily lost through periodic storm surge and flooding events." Massachusetts v. EPA at 1456.

[2] Massachusetts v. EPA, 127 S.Ct. 1438 (2007).

To be blunt, the strong (and accurate words) of the officials of the Commonwealth have moved the Supreme Court and, by extension, national law and policy and those same words should galvanize even stronger action here and now.

So what does all this mean for our rulemaking? The answer is clear: DOER and DEP have an absolute obligation to design, implement and operate this program in a manner that achieves the deepest possible emissions reductions. The program is at heart a mild one that seeks only to make the very first incremental reductions from only one sector of our economy (and not the largest sector at that) and it is a very, very flexible program that provides a broad range of compliance options including bringing in allowances budgeted to other states, allowance banking, multi-year compliance and overly generous use of off-sector offsets. It is essential that the emissions budget not be inflated any further through inappropriate conversion of MA GHG credits, use of Construction and Demolition waste as "biomass" or any of the other schemes, plans or mechanisms that would "ease the compliance burden" on emitters. Such "easings" would only undermine the program.

II. DOER – AUCTION DESIGN AND OPERATION ISSUES & USE OF ALLOWANCE REVENUES

A key theme of our comments to DOER regarding auction design is a simple plea to not extend special rights to generators in the conduct of the auction. Indeed, the hints that such rights may be extended to them in the future should be removed from the regulations. Specifically, the creation of "categories" of auction participants, coupled with a regulatory provision stating that the auction could be closed to any of these categories of participants, is a major mistake. Provisions to that effect, found in 225 CMR 3.08 of the draft regulations, should be removed entirely. Any decision to close the auction to any participants in the future should be the subject of a separate and clear exercise in notice and comment rulemaking.

Of course, the fundamental reason for keeping the auction open is to ensure as fluid, dynamic and efficient an auction as possible by bringing as many participants to the table as possible – defusing opportunities for market power, gaming and monopsony behavior (or more accurately oligopsony[3] power). The closed world of large scale electric generation and associated trading is a perfect breeding ground for oligopsonic and collusive behavior by the small number of generators – collapsing the RGGI auction market down into this small pool of participants is an open invitation to gaming.

One way of defusing this problem of market power and gaming is both to open up the pool of buyers (as discussed above) and also to expand the pool of sellers. This means that Massachusetts should do all that it can to move forward the regional auction. This does not mean backing away from the language in the draft regulations that empowers DOER to conduct a Massachusetts auction. Rather it means that language should be added to the regulations that clarifies that this authority could be delegated to a multi-state regional auction and to the cover letter and final Statement of Reasons making it clear that the Commonwealth would favor a regional auction.

More counter intuitively, the requests for "price and information transparency" by the generators should be viewed with suspicion because of these market power concerns. Posting long-term contract prices increases the likelihood those participants will exercise market power (through gaming). One case study of this phenomenon comes to us from California. It found that the transmission of information by the System Operator ("CAISO") via the web based "OASIS" system to market participants appears to increase the average price of electricity, as does the publishing of emergency conditions.[4] The likely

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[3] An online reference work describes an oligopsony as being, "Similar to an oligopoly (few sellers), this is a market in which there are only a few large buyers for a product or a service. This allows buyers to exert a great deal of control over the sellers and can effectively drive down prices." www.investopedia.com/terms/o/oligopsony.asp.

[4] E. Woychik and B. Carlsson, *How Enron et al. Gamed the Electricity Market: An Empirical Analysis of Trader Knowledge*, Journal of International Business and Economics at p. 10 (forthcoming 2007) available at http://www.trintrin.com/gebc/How%20Enron%20et%20al%20Gamed%20The%20Electricity%20Market%20An%20Empirical%20Analysis%20of%20Trader%20Knowledge.doc

outcome from a market that provides too much information to participants with a strong incentive to collude and game is to increase mimetic behavior and the potential for implicit market collusion. There is ample reason to believe that this same behavior could occur in a limited-buyer oligopsony/monopsony situation as readily as in a limited-seller oligopoly/monopoly context. This concern underlies the decision by the expert team working on the regional auction design to embrace innovate information control and anti-gaming mechanisms like the "shoot-out round" auction design concept, a concern recognized by DOER's adoption of that unique and interesting auction methodology in the regulations.

A different, but equally critical, auction design question is that of a reserve price. Massachusetts should lead the regional auction design towards the conclusion (supported by a broad consensus of economists, as well as by common sense and the environmental protection goals of the program) that a reserve price be set and then, if the market informs us that the allowances have little value because that price is not being met, those unsold allowances should be retired. For the reasons set forth above concerning the potential misuse of information in fueling collusive and gaming behavior, it would be appropriate to keep the precise reserve price confidential – otherwise it is very likely that the allowance prices in the auction would cluster just at, or slightly above, the openly disclosed reserve price.

DOER should be applauded for opening the door towards setting a reserve price in the proposed 225 CMR 13.06(7) but should go further by mandating a reserve price and, for the reasons set forth above, should keep that reserve price undisclosed.

Also, as discussed above, if allowances remain unsold (because of failure to reach the reserve price) after several quarterly auctions, then a clear signal is coming from the market regarding the lack of value of the allowances, most likely because of a realization that there is an oversupply. In this case, contrary to the current wording of proposed 225 CMR 13.06(6), the unsold allowances should be retired. By failing to allow for such retirement to correct for over allocation and resulting market failure DOER is inappropriately tying its own hands.

III. DEP ISSUES

In designing and implementing this program DEP should strive to maintain consistency with other environmental protection programs that DEP administers, as well as consistency with the RGGI Memorandum of Understanding (MOU) and Model Rule that is the bedrock of the program. These principles and the underlying need to maintain the integrity of the program and advance its fundamental greenhouse gas emissions goals dictate certain decisions about its design and implementation. Happily, DEP's draft regulations largely follow this path - and the final regulations should echo the same conclusions.

One area where there is pressure from some commenters to deviate from the path set by the MOU and Model Rule is with regard to the definition of biomass. It is essential that DEP refuse to entertain any attempt to undermine the integrity of the program by moving away from the principle that biomass must be "sustainably harvested woody and herbaceous fuel sources that are available on a renewable or recurring basis." See, proposed 310 CMR 7.70(1). DEP should make it clear in its explanatory materials that by specifying as eligible biomass, "clean organic wastes not mixed with other solid wastes, biogas, and other neat liquid biofuels derived from such fuel sources" it is clearly and explicitly excluding "solid wastes" from the list of eligible biomass fuels.

Likewise, it is essential that the demands from generators that emergency exemption language or other "escape hatches" be added to the program be rejected. There should also be further clarification regarding the integration of the pre-existing (although never implemented) "GHG Credit" scheme. In

particular, it appears that DEP intended for proposed 310 CMR 7.70(10)(c)(4)(e) and related provisions to ensure that only RGGI eligible offset projects would receive RGGI allowance credit – a vital concern as allowing other sources of offsets to earn offset (and thereby allowance) credit would undermine the entire regional program. This intention should be made plain and clear.

IV. CROSSCUTTING ISSUES

DEP and DOER should be complemented for choosing to implement the mechanism provided by the Model Rule for retirement of allowances in order to preserve the voluntary renewable energy market. See, proposed 310 CMR 7.70(5)(c)(1)(b). However, this decision is undermined by the arbitrary cap placed on the number of allowances that could be retired under this provision. See, proposed 310 CMR 7.70(5)(c)(1)(b)(iii). It appears that even modest success in the marketing and deployment of current, proposed and pending voluntary purchase programs (the National Grid Green-Up program, the NSTAR Green program, and the RFP for purchase of renewable energy by the agencies of the Commonwealth) will result in the sale of sufficient RECs to reach the cap in very short order - sharply limiting this developing market.

Finally, we urge DEP and DOER to not fall into the trap of the Maine legislation which delays implementation of their version of this program until a set amount of other states have adopted parallel regulations and are ready to implement them (See 38 Maine Revised States Ann. 580-B(2)). As the largest source of greenhouse gas emissions in New England, the Commonwealth has an obligation to lead the region – not to follow it. In order for this regional program to succeed, the larger states, including Maryland, New Jersey, New York, Connecticut and Massachusetts, will need to launch it.

Sincerely,

Seth Kaplan

Constellation Energy Group

September 24, 2007

Nicholas Bianco
MassDEP
One Winter Street, Sixth Floor
Boston, MA 02108

Robert Sydney
DOER
100 Cambridge Street, Suite 1020
Boston, MA 02114

Transmitted via email: Nicholas.M.Bianco@state.ma.us and Robert.Sydney@state.ma.us from Margaret Powell, Constellation Energy Group, Inc.

Re: Constellation Energy Group, Inc's Comments on the Proposed RGGI Regulations
Constellation Energy Group, Inc. (Constellation) appreciates the opportunity to comment on the proposed regulations to implement the Regional Greenhouse Gas Initiative (RGGI). The comments below address both the Massachusetts Department of Environment (MassDEP) CO2 Budget Trading Program (310 CMR 7.70) and the Division of Energy Resources (DOER) CO2 Budget Trading Program Auction Regulation (225 CMR 13.00). Constellation has participated in the regional RGGI stakeholder process and, offers its comments on Massachusetts' proposed rules.

Constellation supports the overall goals of the RGGI and appreciates that the program could serve as a valuable stepping stone toward the development of a national program. However, Constellation wishes to emphasize that the timely implementation of a single, US greenhouse gas reduction program is critical. Once implemented, the mandatory national greenhouse gas reduction program must supersede the RGGI program to avoid the difficulties and confusion that redundant and possibly conflicting programs would present.

Constellation is pleased that Massachusetts opted to set-aside a small portion of allowances for use with renewable energy sales in the voluntary renewable energy market. This small set-aside will help to support an evolving carbon-neutral electricity market. Constellation has no objection to fixing the amount of set-aside tons, currently set at 200,000 tons, though Constellation prefers eligible criteria that are consistent and open across the RGGI region. Constellation also supports returning any set-aside allowances not used in this program to the broader allowance market.

As RGGI is a regional program establishing a common CO2 allowance currency, Constellation urges Massachusetts to participate in a centralized auction regime to avoid the added administrative costs and other challenges for participants in a multi-state auction schedule. Constellation also wishes to emphasize the importance of focusing auction revenues on the greenhouse gas reduction related purposes.

Finally, Constellation strongly encourages Massachusetts and all the RGGI states to establish a robust tracking system designed to track allowances and offsets in both compliance and voluntary markets. The system should accommodate multiple definitions and data. It should be built to accommodate linkage to other systems within the US and ultimately to link internationally.

Again, thank you for the opportunity to comment and Constellation looks forward to continued participation in the process.

Covanta Energy

September 24, 2007

Mr. Nicholas Bianco
1 Winter Street, 6th Floor
Boston, MA 02108

Reference: Proposed Regulations for 310 CMR

Mr. Bianco:

We appreciate the opportunity to provide comments on the proposed regulations. Our comments are being filed both electronically and as a hardcopy.

If there are any questions regarding these comments, please do not hesitate to contact me direct.

Sincerely,

Brian Bahor, QEP
Senior Director, Environmental Engineering

Comments on
Proposed Regulation 310 CMR 7.70

General
Comments on the Proposed Regulation are provided in chronological order. Each comment has three sections. The first section identifies the **Proposed Condition**, the second section identifies **Issues** that are the basis of our comment and the third condition provides an **Alternative Condition** that identifies how the issues could be recognized in a condition. Any edits to the proposed language in this third section are indicated by the following: deleted text is shown as a ~~strikethrough~~ and new text is indicated as *italic* font.

1.0 7.70 (1) (a) Massachusetts CO2 Budget Trading Program
Proposed Condition
Purpose. 310 CMR 7.70 establishes the Massachusetts CO2 Budget Trading Program, which is designed to stabilize and then reduce anthropogenic emissions of CO2, a greenhouse gas, from CO2 budget sources in an economically efficient manner.

Issue
The proposed "Purpose" is limited to CO2 and does not recognize other significant greenhouse gases that are then identified in other conditions (as an example, CH4 and SF6) that are eligible for offset projects). An inherent contradiction that should be remedied is that any GHG emission that is eligible as a source of an offset project should also be identified as a GHG emission. States eligible for emission reduction, avoided emission or sequestered projects are directly addressing certain GHG emissions as a problem that must be remedied. Massachusetts is not fully addressing the GHG problem with the current language and is less stringent that other states.

Alternative Language
Purpose. 310 CMR 7.70 establishes the Massachusetts CO2 Budget Trading Program, which is designed to stabilize and then reduce anthropogenic emissions of *all greenhouse gas emissions (*CO2, *CH4, N20 and others as defined by the IPCC)* ~~a greenhouse gas,~~ from ~~CO2~~ *all* budget sources in an economically efficient manner *that recognizes a lifecycle analysis.*

2.0 7.70 (1) (b) Definitions
2.1 CO2 Equivalent.
Proposed Definition
The quantity of a given greenhouse gas multiplied by its global warming potential (GWP).

Issue
The proposed condition does not recognize that the reference for the GWP for various gases should be from the last Assessment by the Intergovernmental Panel on Climate Change. The lack of a reference could lead to confusion if different parties use different GWP values.

Alternative Condition
The quantity of a given greenhouse gas multiplied by its global warming potential (GWP) *according to the global warming potential in the most current Assessment by the Intergovernmental Panel on Climate Change.*

2.2 Add "Life Cycle Analysis"
Proposed Definition
None

Issue
Calculation procedures that do not recognize the full range of energy and environmental impacts of a process can lead to an erroneous conclusion. A life cycle assessment that considers long-term impacts is considered to be a more valuable tool for making a decision on current methods to manage greenhouse gas emissions.

Alternative Condition

Life Cycle Assessment (LCA) is an analytical tool for the systematic evaluation of the environmental aspects of a product or service system through all stages of its life cycle.

2.3 Eligible biomass
Proposed Definition
Eligible biomass includes sustainably harvested woody and herbaceous fuel sources that are available on a renewable or recurring basis (excluding old-growth timber), including dedicated energy crops and trees, agricultural food and feed crop residues, aquatic plants, unadulterated wood and wood residues, animal waste, other clean organic waste not mixed with other sold wastes, biogas, and other neat liquid biofuels derived from such fuel sources. Sustainably harvested shall be determined by the Department.

Issue
The proposed definition does not recognize the ability of existing facilities that convert conventional biomass to electrical power and will exclude demonstrated technologies that can reduce GHG emissions.

Alternative Definition
biomass" means non-fossilized and biodegradable organic material originating from plants, animals and micro-organisms, including products, byproducts, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material;

2.4 Add "Methane"
Proposed Definition
None

Issue
The Background Information and Technical Support Document for Proposed adoption of 310 CMR 7.70 cite the Fourth Assessment by the Intergovernmental Panel on Climate Change as a technical resource. This report specifically comments on the impact of anthropogenic emissions including CO2 and CH4 with CH4 emissions being the second largest contributor to radiative forcing. MADEP has decided not address this entire source category for CH4 but is providing CO2 offsets for reducing CH4. This contradiction needs to be considered and reconciled in the States GHG inventory including all landfills, including those subject to 40 CFR Part 60 Subpart WWW. The ability of a major source to be considered as a source of CO2 offsets without consideration of their fugitive (ie, unabated) emissions is ignored by the proposed regulation. This inequity is not explained and is inconsistent with virtually every international GHG inventory. The USEPA has a certified test method for determining CH4 emissions from area sources such as landfills yet it is not being included as a means to quantify the actual emissions for this category.

Alternative
Methane *is a greenhouse gas is generated by a variety of anthropogenic operations and is a recognized greenhouse gas according to the Intergovernmental Panel on Climate Chang.*

3.0 7.70 10 (c) 1.ai General Requirements
Proposed Condition
Article 7.70 10 (c) 1.a.i is proposed as "landfill methane capture and destruction".

Issue
The proposed condition does not directly recognize and apply the requirements of (10) CO2 Emission Offsets Projects and the condition that offset allowance must be real, additional, verifiable, enforceable and permanent. The anaerobic decomposition of biodegradable waste occurs over a 100-year period including virtually all operating phases of a landfill. A landfill gas collection system that captures a fraction of the methane some of the time is not real, verifiable and permanent when considering the following:

Real – the statement does not recognize that there is methane released to the environment before, during and after operation of the landfill gas system and that all of this methane is man-made. The reduction or "offset" is not Real unless the amount collected and destroyed is greater in quantity than the amount emitted on a lifecycle basis.

Verifiable and Permanent – the statement only addresses the fraction of landfill gas collected. The proposed condition does not recognize that there are other fugitive emissions and subsequent conditions do not require measurement of such despite the availability of certified EPA test methods (OTM-10). Verification of the "net reduction" or "offset" is not required and is subsequently never demonstrated. As a result, the permanent nature of the so-called offset is also never demonstrated.

Alternative Condition
i. Landfill methane capture and destruction *on a lifecycle basis that recognizes the all operating phases of the landfill*.

4.0 7.70 10 (c) 1.a.vi General Requirements
Proposed Condition
New Condition.

Issue
The technical basis for proposed Article 7.70 10 (c) 1.a.i "landfill methane capture and destruction" is that collection and destruction of a fraction of methane generated from MSW is an effective GHG mitigation technology. If this CH4 reduction strategy is acceptable, then a technology such as modern EfW should also be included due to its ability to reduce all of the CH4 that would be generated from any given amount of MSW.

Modern energy-from-waste facilities recognized are on an international basis as a viable process for reducing greenhouse gas emissions. Annex I countries are using solid waste management in general and EfW specifically as a mechanism to reduce GHG emissions and in fact, use these reductions in demonstrating their progress towards meeting their respective Kyoto Protocol targets. Non-Annex I countries are using approved Clean Development mechanism (CDM) protocols (AM0025 ver.7 methodology) to generate CO2 credits from EfW. The USEPA has a lifecycle analysis (the Municipal Sold Waste Decision Support Tool) that is a quantitative tool that determines the GHG emission characteristics of different MSW disposal options and is a valid technique for estimating the quantity of GHG reduced by EfW when compared to various landfill options.

The absence of EfW from the proposed list of offset project types does not recognize the existing contribution by EfW in reducing GHG emissions relative to the existing Massachusetts inventory.

Alternative Condition
vi. Energy-from-waste facilities that recovery energy from combustion of MSW

5.0 7.70 10 (e) c. CO2 Emission Offset Project Standards. Emission baseline determination.

Proposed Condition
The emissions baseline shall represent the potential fugitive emissions of CH4 (in tons of CO2e), as represented by the CH4 collected and metered for thermal destruction as part of the offset project, and calculated in accordance with 310 CMR 7.70 (10) (e) 1.c

Issue
There are three general issues addressed herein

1. Methane from landfills is a man-made pollutant generated due to the burial of organic matter in an oxygen starved environment. Methane does not exist when the waste is buried. It is formed from an artificial environment and all of the methane should be considered in the context of offsets.
2. Air regulations for the protection of human health and the environment should apply to all of the methane, not only the fraction "collected and metered".
3. This entire condition fails to regulate CH4 from landfills that do not install a landfill gas collection system.

Item 1 raises the question of why a landfill, or any other generator for that matter, should receive an offset for controlling a pollutant that they created. The concept of rewarding a generator for collecting a fraction of a pollutant is precedent setting.

Item 2 raises a question about the language that awards an offset for the "CH4 collected and metered". The general equation does not recognize that there are fugitive emissions lost to the environment during all phases of a landfill including the phase when a landfill gas collection system is in operation collecting a fraction of the landfill gas. Why would the landfill get credit for collection some methane part of the time and not be penalized for emitting this same greenhouse gas pollutant during all other phases including the amount not captured when it is operating.

Item 3 raises the general concept of equal application of a regulation to control greenhouse gases. If all landfills are known sources of methane – why aren't they listed as such and required to implement the best possible control of such.

Alternative Condition
The emissions baseline shall represent the potential fugitive emissions of CH4 (in tons of CO2e), as represented by *total* of *1)* the CH4 collected and metered for thermal destruction as part of the offset project, *2) the CH4 not collected during the CH4 collection period as quantified by EPA OTM-10, and 3) the CH4 not collected before implementation of the CH4 collection system and after the collection system operation has been terminated,* and calculated in accordance with 310 CMR 7.70 (10) (e) 1.c

Naturally the equation on Page-57 would need to be de-done to enable an accurate CH4 mass balance.

6.0 7.70 10 (e) c. CO2 Emission Offset Project Standards. Emission baseline determination.

Proposed Condition
OX – Oxidation factor (0.10) representing estimated portion of collected CH4 that would have eventually oxidized if not collected: and,

Issue
The presumed oxidation of CH4 across a landfill cover is not a sound technical statement and the absence of any requirement to ever measure this parameter, let alone on a continuous or semi-continuous basis, is contrary to the requirement that offset allowance must be real, additional, verifiable, enforceable and permanent.

From a practical perspective, a landfill gas collection system is most effective after the cell is covered. This same covering that is designed to prevent in-leakage of water, also prevents the escape of landfill gas. As a consequence, gas that escapes is not through soil where oxidation may occur but through the path of least resistance such as a tear or penetration through the cover.

From a regulatory perspective:
Real – there is no demonstration that oxidation ever occurred.
Verifiable – again, there is no evidence to support this assumption and there is no requirement to generate this information.
Enforceable – again, there is not requirement to prove this value so it is not an enforceable condition.
Permanent – same argument as above.

Alternative Condition
OX – Oxidation factor (~~0.10~~) *(0.00)* representing estimated portion of collected CH4 that would have eventually oxidized if not collected: and,

An oxidation factor can be applied if the generator implements a demonstration project that identifies an initial factor and landfill management practices that will ensure that this factor is maintained on a continuous basis. In order to assure that this variable is being maintained in practice, repeat field testing on a quarterly basis is required in addition to landfill operating practices to assure integrity of the landfill cap. If field testing does not prove that the requisite oxidation factor is being achieved, the offset calculation will be adjusted accordingly.

7.0 7.70 10 (e) d. CO2 Emission Offset Project Standards. Calculating emission reductions.

Proposed Condition
Emissions reductions shall be determined based on potential fugitive CH4 emissions that would have occurred at the landfill if metered CH4 collected from the landfill for thermal destruction as part of the offset project was not collected and destroyed.

Issue
The issues raised in Item 4.0 above also apply to this condition.

Alternative Condition
Emissions reductions shall be determined based on the *difference between total* potential fugitive CH4 emissions that would have occurred at the landfill *and the amount* ~~if~~ *of* metered CH4 collected from the landfill for thermal destruction as part of the offset project ~~was not collected and destroyed~~. *The total potential fugitive emission CH4 factor shall include1) the CH4 not collected during the CH4 collection period as quantified by EPA OTM-10, and 2) the CH4 not collected before implementation of the CH4 collection system and after the collection system operation has been terminated,*

8.0 7.70 10 (e) d. CO2 Emission Offset Project Standards. Calculating emission reductions.

Proposed Condition
OX – Oxidation factor (0.10) representing estimated portion of collected CH4 that would have eventually oxidized if not collected: and,

Issue
Same as Item 5.0 above.

Alternative Condition
OX – Oxidation factor (~~0.10~~) *(0.00)* representing estimated portion of collected CH4 that would have eventually oxidized if not collected: and,

An oxidation factor can be applied if the generator implements a demonstration project that identifies an initial factor and landfill management practices that will ensure that this factor is maintained on a continuous basis. In order to assure that this variable is being maintained in practice, repeat field testing on a quarterly basis is required in addition to landfill operating practices to assure integrity of the landfill cap.

9.0 7.70 10 (e) d. CO2 Emission Offset Project Standards. Calculating emission reductions.

Proposed Condition
Cef = Combustion efficiency of methane control technology (0.98). and,

Issue
The presumed destruction of CH4 is not a sound technical statement and the absence of any requirement to ever measure this parameter, on a continuous or semi-continuous basis, is contrary to the requirement that offset allowance must be real, additional, verifiable, enforceable and permanent.

From a practical perspective, methane control technology is not a continuous process whether it is a flare or engine. This is due to variations in the fuel quality and the technology device itself. There are numerous citations where both devices operate below 98 %.

From a regulatory perspective, the assumption contradicts required parameters for an offset including:
Real – there is no demonstration that reduction ever occurred.
Verifiable – again, there is no requirement to generate this information.
Enforceable – again, there is not requirement to prove this value so it is not an enforceable condition.
Permanent – same argument as above.

Alternative Condition
Cef = Combustion efficiency of methane control technology (~~0.98~~) (*0.00*). and,

A combustion efficiency factor can be applied if the generator implements a demonstration project that identifies an initial factor and landfill management practices that will ensure that this factor is maintained on a continuous basis. In order to assure that this variable is being maintained in practice, repeat field testing on a quarterly basis is required in addition to continuous monitoring of carbon monoxide and other landfill operating practices to assure integrity of the methane control system. If field testing does not

prove that the requisite oxidation factor is being achieved, the offset calculation will be adjusted accordingly.

10.0 7.70 10 (e) e. CO2 Emission Offset Project Standards. Monitoring and verification requirements.

Proposed Condition
Offset projects shall employ a landfill gas collection system that provides continuous monitoring and data computation of landfill gas volumetric flow and CH4 concentration. Annual monitoring reports shall include monthly volumetric flow rate and CH4 concentration data, including documentation that the CH4 was actually supplied to the combustion source. Monitoring and verification is also subject to the following requirements.

i. The project sponsor shall submit a monitoring and verification plan as part of the consistency application that includes a quality assurance and quality control program associated with equipment used to determine landfill gas volumetric flow and CH4 composition. The monitoring and verification plan shall also include provisions for ensuring that measuring and monitoring equipment is maintained, operated and calibrated based on manufacturing recommendations, as well as provisions for the retention of maintenance records for audit purposes. The monitoring and verification plan shall be certified by an independent verifier accredited pursuant to 310 CMR 7.70(10)(f).

ii. The project sponsor shall annually verify landfill gas CH4 composition through landfill gas sampling and independent laboratory analysis using applicable U.S. Environmental Protection Agency laboratory test methods.

Issues
The proposed condition was reviewed in the context of the requirement that an offset allowance must be real, additional, verifiable, enforceable and permanent. Prior comments have addressed the general problem with not measuring or considering methane emissions to the environment before, during and after the landfill gas system has been operational. An additional issue raised in the proposed text is reliance on “manufacturers recommendations” for compliance with a state regulation. Specific points are:

Verifiable – instrumentation and certification procedures are required to affirmatively demonstrate the performance of any system. Manufacturers recommendations will vary from manufacturer to manufacturer and do not necessarily equate to verifiable.

Enforceable – unless there is some form of state-enforceable compliance mechanism in a facilities permit, this provision by itself does not achieve the verifiable metric. This statement applies equally to methane capture values, the performance of the methane destruction device and oxidation values. We also strongly suggest that the true fugitive losses should be measured by EPA OTM-10.

Alternative Condition
Offset projects shall employ a landfill gas collection system that provides continuous monitoring and data computation of landfill gas volumetric flow and CH4 concentration *destroyed by the methane management device*. Annual monitoring reports shall include monthly volumetric flow rate and CH4 concentration data, including documentation that the CH4 ~~was~~ actually supplied to the combustion source *was destroyed*. Monitoring and verification is also subject to the following requirements.

iii. The project sponsor shall submit a monitoring and verification plan as part of the consistency application that includes a quality assurance and quality control program associated with equipment *and instrumentation* used to determine landfill gas volumetric flow and CH4 composition. The monitoring and verification plan shall also include provisions for ensuring that measuring and monitoring equipment is maintained, operated and calibrated based on ~~manufacturing recommendations~~ *performance standards approved by the State with all calibration being performed by independent third party firm*, as well as provisions for the retention of maintenance records for audit purposes.

The monitoring and verification plan shall be *implemented and all results* certified by an independent verifier accredited pursuant to 310 CMR 7.70(10)(f).

iv. The project sponsor shall annually verify landfill gas CH4 composition through landfill gas sampling and independent laboratory analysis using applicable U.S. Environmental Protection Agency laboratory test methods.

Re: Comments of Dominion Energy New England, Inc. on the MA RGGI Transition and Implementation Rules, 310 CMR 7.29, 310 CMR 7.00 Appendix B(7) and 310 CMR 7.70

Dear Mr. Bianco:

Dominion Energy New England, Inc. ("Dominion") appreciates the opportunity to submit comments to the Massachusetts Department of Environmental Protection ("the Department") relative to:

- **310 CMR 7.29** - Emissions Standards for Power Plants - The portion of the existing regulation addressing CO_2 emissions from six power plants in the Commonwealth that will be modified and ultimately replaced by 310 CMR 7.70.

- **310 CMR 7.00** Appendix B(7) - Emission Banking, Trading, and Averaging - The existing regulation addressing the creation of Greenhouse Gas Credits (GHG Credits) will be modified and ultimately replaced by 310 CMR 7.70.

- **310 CMR 7.70** - CO2 Budget Trading Program - This new regulation will implement a Cap and Trade system to control emissions of CO2 from power plants in Massachusetts. This proposal is based on the Model Rule that was developed as part of the Regional Greenhouse Gas Initiative (RGGI).

The purpose of these proposed regulatory changes is to address the existing Massachusetts power plant requirements for CO2 and how we transition to the RGGI regional CO_2 cap and trade program. Dominion appreciates the many areas of the requirements that have been modified to address concerns we have identified in the past. However, we have also identified additional areas where the proposed regulations could be strengthened and have made some additional recommendations stated below.

Sunset the MA CO2 Emissions Standards of 310 CMR 7.29

As stated in our previous comments, Dominion believes that the implementation of the 1,800 lb/MWHr rate standard of 7.29 *should be revoked* so as not to expend valuable Department and regulated sources resources for a program that will be implemented for only one year.

Nevertheless, Dominion strongly supports the Department's proposal to sunset the MA CO_2 emissions standards of 310 CMR 7.29, as RGGI commences in January 2009. We believe that Massachusetts generating units should only be subject to one carbon constraining program. Preferably, a carbon program should originate at the national level, but in any case, to the extent it is implemented at the state level, only one set of requirements should exist. State and regional greenhouse gas programs should be sunset when broader national programs are implemented. Overlapping and redundant regulatory programs for CO2 will likely put additional burden on Departmental resources, affect electric system reliability and fuel diversity, provide no measurable incremental environmental benefit, add unnecessary and unwelcome confusion, and create costs that ultimately are borne by Massachusetts' consumers.

Sunset RGGI If a National Program Is Implemented

There are several proposals for national cap and trade programs being discussed in Washington today. Those programs are likely to look to Massachusetts for direction in helping to shape national policy. State and regional programs should be sunset when broader national programs are implemented. MA should explicitly commit to sunset RGGI when a national program is implemented in 310 CMR 70.00. In no case should Massachusetts and other RGGI states continue to operate a parallel, separate or more aggressive program because of the severe economic disadvantages and the market and trading disparities that would result.

Deadline, Exchange Ratio for RGGI-Ineligible Projects and Set Aside

The proposed deadline to receive exchangeable GHG Credits under 7.29 for RGGI allowances is December 31, 2012. This timeframe is significantly shorter than the ten-year or twenty-year investment horizon for offset projects contemplated by the RGGI Model Rule. Dominion recommends that this timeframe be extended. For example, a 10-20 year timeframe would be consistent with the RGGI Model Rule and to appropriately recognize investments made into non-RGGI eligible 7.29 GHG Credit projects.

We agree with the concept of a set aside of 1% MA RGGI CO2 allowances for purposes of crediting GHG offset projects in transitioning from 310 CMR 7.29 to RGGI. However, the four year timeline for this set aside (2009 through 2012) should be extended to match any time horizon (10 or 20 years) finally established for non-RGGI eligible 7.29 GHG Credit projects.

The Department is contemplating transferring RGGI-Ineligible MA GHG credits to RGGI CO2 allowances: by allowing for the exchange of 2 GHG Credits for 1 RGGI CO2 allowance. MA GHG Credits should not be discounted at a ratio of 2 to1. There should be a 1 to 1, ton for ton, recognition of these investments that reduce, sequester or avoid greenhouse gas emissions. Distinctions between forms of greenhouse gas reductions, sequestering or avoidance are irrelevant and unnecessary when transitioning from program to program, since actual reductions still validly occur.

Expendable Trust Payments and Timing of GHG Credits

As stated in our letter to the Department on July 26, 2007, it is essential that MA generators be given the ability to pay into the GHG Expendable Trust in order to meet their compliance obligations, until the CO2 requirements of 310 CMR 7.29 and 310 CMR 7.00 Appendix: B are sunset by RGGI or a national program. Despite our sincere and aggressive efforts to procure Massachusetts compliant GHG Credits, we have had limited success to date in procuring GHG credits that meet the Massachusetts criteria. The market simply lacks a sufficient quantity of domestic MA GHG credits. Given the lack of availability of GHG credits from brokerages, the lack of response seen in the nation-wide request for proposal described in the July 26th letter and market pressures from the voluntary market, an expansion of the geographic region from where offsets can be procured, while helpful, is not likely to provide an adequate supply of offsets to address the immediate near term issue of compliance obligations for 2008 for facilities subject to the CO2 310 CMR 7.29 and 310 CMR 7.00 Appendix: B. We strongly believe the GHG credit market has not developed as anticipated by the Department when it promulgated the requirements in 2001. Therefore, we request the Department to finalize the 7.29 and 7.00 rules and start the process to allow an expanded geographic region **and** to allow payment into the Expendable Trust expeditiously.

Also, as a point of clarification to respond to those stakeholders who have expressed that generators have been 'on notice' since 2001 and 'should not be able to pay into the GHG Expendable Trust,' we offer the following thoughts. The GHG credit rules were not finalized until the Spring of 2006. Even at that, there are aspects of the rules that are still uncertain today, as evidenced by the amendments the Department is seeking comment on here.

Because of the uncertainty regarding the exchange ratio coupled with the proposed deadline of December 31, 2012 to receive exchangeable GHG Credits under 7.29 for RGGI allowances, companies are extremely reticent to invest further in 7.29 GHG Credit eligible projects, which further limits their compliance options, particularly for the year 2008. Of further concern is that these 7.29 GHG Credit project investments may not ultimately count as offsets under RGGI. Creating certainty as soon as possible for 2008 and beyond is critical to business decision-making since companies must estimate in advance of operation (in the case of forward contracts or bidding) what their operating costs (including CO2) will be in order to make prudent business decisions.

Given the extreme uncertainty on return on investment associated with 7.29 GHG Credits at this time, it is *financially speculative* for companies to invest in 7.29 GHG Credit projects, contravening the intent of

7.29. This puts the companies subject to the carbon dioxide emission standards of 310 CMR 7.29(5)(a)5 into an untenable position regarding compliance, further justifying why payments into the GHG Expendable Trust should be allowed, along with an expanded geographic region.

Dominion acknowledges the Department's proposal to move the ability to pay into the Massachusetts Expendable Trust out to September 2009, to match the proposed 2008 true-up period. As we have stated, the ability to be able to pay into the Massachusetts Expendable Trust is critical to avoiding interruptions in the production of electricity and assuring reliability. Given the difficulty and our limited success in procuring GHG credits described above, we believe that both dates, the compliance true-up date and the date where payments into the GHG Expendable Trust terminates, should be moved back to 2012 since the market is unable to produce Massachusetts qualified 7.29 GHG Credits.

With stiff competition from the voluntary markets, offset project developers may be choosing to participate solely in voluntary markets, or holding back on project development in hopes of maximizing their return, when the current nascent regulatory market is more fully matured. If these compliance dates are not moved back, it will not be possible to achieve 2008 compliance with 7.29 unless alternative compliance mechanisms are established.

State Allocation of Auction Proceeds

The Secretary of Energy and the Environment may want to consider allocating the 7.29 Trust Trigger dollars and the dollars collected from the auctions to specific localities. For example, the towns and communities that host the facilities subject to these rules should preferentially benefit from the Expendable Trust dollars so that offset projects – like converting fleets of school busses or energy efficiency projects in public buildings, are pursued in those communities first; before considering spending those dollars somewhere else. This contributes to easing the energy costs burdens for these Massachusetts communities, while not affecting the overall cost of compliance for the facilities. Also, dollars from the auction should be considered for use at the facilities which may host research and development pilot projects, which enhance the technical understanding of carbon capture and storage, or projects that reduce or sequester greenhouse gases.

Discretionary State Set Aside Mechanisms

The Department is proposing to implement a provision of the RGGI Model Rule that allows them to retire allowances equal to customer's voluntary purchase of renewable energy (VRE). The total number of CO2 allowances to be retired for such voluntary purchases in Massachusetts is proposed to be capped at 200,000 CO_2 allowances.

Dominion does not believe that the VRE policy provision should be implemented in MA for two reasons. First, there are many other state and federal policy incentives already in place to encourage renewables. Secondly, we believe that the state cap does not adequately account for load growth and that there will eventually be a shortage of allowances in the New England market. As a result, we cannot support any policy mechanisms that serve to further lower a state's cap. Therefore, Massachusetts should not implement this discretionary provision.

Definition of Biomass

The definition of biomass in the Department's proposed rule mirrors that of the RGGI Model Rule. This biomass definition is too restrictive and eliminates many beneficial fuel-switching opportunities at existing fossil fuel plants. One of the main goals of RGGI should be to reduce the carbon intensity of the region's power supply. One way this can be accomplished is through the co-firing of biomass at existing fossil fired power plants.

Massachusetts must consider expanding that definition to include biomass derived feedstock which has been approved by the Department through a Beneficial Use Determination pursuant to 310 CMR 19.060.

This is critical for preserving valuable landfill space in Massachusetts and other states, reducing methane emissions from landfills and providing incentives for the fossil-fuel fleet's transition to alternative fuels.

Maine Policy Provisions

Massachusetts should consider implementing a few policy ideas from Maine's RGGI regulations, which were provisions negotiated between the generators and non-governmental organizations (NGOs). First, Massachusetts should include a provision that the 310 CMR 70.00 program will not be effective any earlier than January 1, 2009 *and* only when other states meeting the following criteria have initiated comparable RGGI CO2 budget trading programs:

1. Other states in ISO-New England; and
2. Other RGGI states whose CO2 emissions total at least 35,000,000 tons per year.

Maine also provides facilities the ability to apply for a 'temporary waiver of violation penalties' if immediately and irreparably harmed by CO_2 price. Alternatively, a 'temporary compliance waiver' could be granted if a unit faces some emergency or unexpected emissions increase. Leakage

According to the modeling results from the RGGI Staff Working Group, the RGGI Region could lose approximately two thirds of any CO2 emissions improvements due to "leakage." Developers in non-RGGI states would have the economic incentive to build and operate CO2 emitting facilities that import power into the RGGI region without incurring the cost of allowances, thereby negating a sizeable percentage of any environmental improvements Massachusetts hopes to achieve. RGGI implementation encourages greater electricity imports, providing economic advantages to non-RGGI states virtually overnight and exacerbating the leakage problem – defeating the very purpose of the MA RGGI program. This is one of the primary reasons why Dominion prefers a national program to a patchwork of state or regional programs.

It is premature to propose Massachusetts RGGI regulations that lack a mechanism to address leakage. A final Imports and Leakage report is expected this fall, whereby the RGGI Staff Working Group will undertake a more detailed qualitative and quantitative analysis of the potential effects of the various emissions leakage mitigation policy options considered in their preliminary report issued earlier this year. Given the centrality of this issue to the program's effectiveness, the MA RGGI regulation's implications cannot be known fully without considering the scope and impact of remedies to address the leakage problem. This is especially important if the primary mechanism to address leakage is simply 'market monitoring.'

Once again, we appreciate the Department's consideration of these issues and if you have any questions, please call Paula Hamel at 401-457-9234 or e-mail at paula.a.hamel@dom.com.

Sincerely,

Pamela F. Faggert
[Dominion]

ESC

August 27, 2007
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RE: Regional Greenhouse Gas Initiative Draft Rule for Massachusetts dated August 2006

Dear Mr. Bianco and Mr. Sydney:
ESC is a supplier of continuous air emissions monitoring software for electric generating and industrial sources under 40 CFR 60 and 75, as well as individual state programs. We are working with our customers in planning for implementation of the RGGI requirements, and in doing so, have developed the attached list of questions after reading the proposed changes to Massachusetts rule 310 CMR 7.70.

If you have any questions about any aspect of our comments, please do not hesitate to call me at 865.688.7900, ext. 1445, or you may contact me via electronic mail at mlayman@envirosys.com.

Best regards,

Marsha Layman
Senior Environmental Specialist

QUESTIONS FROM ENVIRONMENTAL SYSTEMS CORPORATION
ON MASSACHUSETT'S DRAFT RGGI RULE
Rule Dated August 2006

Comments Date: August 27, 2007
1. The State of Maine's RGGI rule becomes effective when the other states that are in Maine's RTO "have initiated comparable CO2 budget trading programs" Will Massachusetts' rule have similar implementation details? If so, how will affected sources know when those conditions are met?

2. In the definition of a Continuous Emissions Monitoring System (CEMS) (page 11), there is a requirement to "sample, analyze, measure, and provide ... readings recorded at least once every 15 minutes...." Will the Part 75 requirements under § 75.10(d) be allowed (provision for reduced number of data points if in calibration or maintenance; handling of partial operating hours)?

3. The definition of a Continuous Emissions Monitoring System (CEMS) (pages 11 and 12) include:

> "(2) A nitrogen oxides emissions rate (or NOX-diluent) monitoring system, consisting of a NOX pollutant concentration monitor, a diluent gas (CO2 or O2) monitor, and an automated data acquisition and handling system and providing a permanent, continuous record of NOX concentration, in parts per million (ppm), diluent gas concentration, in percent CO2 or O2; and NOX emissions rate, in pounds per million British thermal units (lb/MMBtu);"

Subparagraph (5) describes an O2 system. Why are a NOx rate system and an O2 system required for this CO2 trading program?

4. Section 7.70(5)(a)(ii) (page 18) requires that "All emissions monitoring information" be kept for a period of 10 years. Which data must be kept? Specifically, we are concerned about the data storage impact of retaining all minute data collected by every monitoring system.

5. Section 7.70(8)(a)(1)(a) stipulates the "requirements for installation, certification, and data accounting" (page 38): "Install all monitoring systems required ... for monitoring CO2 mass emissions." Should heat input be included in this sentence?

6. Section 7.70(8)(a)(1) (page 38) lists the monitoring requirements:

> "(a) Install all monitoring systems required under 310 CMR 7.70(8) for monitoring CO2 mass emissions. This includes all systems required to monitor CO2 concentration, stack gas flow rate, O2 concentration, heat input, and fuel flow rate, as applicable, in accordance with 40 CFR 75.13, 75.71and 75.72 and all portions of appendix G of 40 CFR part 75, except for equation G-1 in 40 CFR Part 75. Equation G-1 in Appendix G shall not be used to determine CO2 emissions under this Part."
>
> a. Which parameters are required to be monitored? Only CO2 mass and heat input are required to be reported under Section 7.70(8)(e) (page 44). Therefore, O2 and moisture are not required parameters, unless needed to compute CO2 mass, correct?
>
> b. Which methodologies from Part 75 are allowed? This paragraph cites:
>
> -§ 75.13 (CO2 mass emissions)
> -§ 75.71 (NOx rate under Subpart H) – what has this to do with CO2 mass?
> -§ 75.72 (NOx mass under Subpart H) – why?
> -Can an O2 monitoring system be used to calculate CO2 emissions?
> -Appendix G except for G-1. Does this mean that equation G-4 (the most commonly CO2 exception method used in the Acid Rain Program) is allowed? And can sources subtract out CO2 retained in ash and sorbent using equations G-2, G-3, G-5, G-6, and G-7?
>
> Is the Low Mass Emissions Methodology (from § 75.19) allowed? Is the Appendix D fuel flow methodology for heat input allowed? Should these be included in this requirements section? The way this paragraph currently reads, no estimation methodologies would be allowed.

7. Section 7.70(8)(a)(3)(a) (page 39) lists the Part 75 citations the specify the use of maximum potential values for systems that are not certified on time:

> "...for CO2 concentration, CO2 emissions rate, stack gas moisture content, fuel flow rate, and any other parameter required to determine CO2 mass emissions and heat input in accordance with 40 CFR 75.31(b)(2) or (c)(3), section 2.4 of appendix D of 40 CFR Part 75 or section 2.5 of appendix
> E..."

The inclusion of section 2.5 of appendix E seems incorrect, since that methodology estimates NOx rate emissions.

8. Section 7.70(8)(a)(3)(b) (page 39) offers an alternative to using maximum potential values, allowing the use of the standard "missing data procedures in Subpart D, or appendix D or appendix E of 40 CFR Part 75." The inclusion of appendix E in this paragraph seems incorrect, since that methodology estimates NOx rate emissions.

9. Section 7.70(8)(b)(3) requires resubmittals of petitions for an alternative requirement (page 40):

> (c) If the Administrator has previously approved a petition under 40 CFR 75.17(a) or (b) for apportioning the CO2 emissions rate measured in a common stack or a petition under 40 CFR

75.66 of this chapter for an alternative requirement in 40 CFR 75.12, 40 CFR 75.17 or Subpart H of 40 CFR part 75, the CO2 authorized account representative shall resubmit the petition to the Department...."

However, the section cited (§ 75.17(a)) provides for petitions for NOx apportioning at a common stack, bypass stack, or multiple stack, not for CO2 apportionment. Section 75.13, which describes the CO2 monitoring provisions, does allow apportionment petitions under § 75.16, which is the SO2 monitoring provisions section; should that be used instead? This paragraph also describes avenues for relief from § 75.12, 75.17, and Subpart H, all of which are NOx emissions monitoring requirements. How does this apply to RGGI sources?

10. Section 7.70(8)(b)(4) introduces the requirements for initial certification and recertification "...for a continuous emissions monitoring system and an excepted monitoring system under appendices D and E of 40 CFR Part 75 ..." (page 40). The inclusion of appendix E in this paragraph seems incorrect, since that methodology estimates NOx rate emissions.

11. 7.70(8)(c) provides an instruction for the recertification process (page 41) that directs the user to "follow the procedures in 40 CFR 75.20(b)(5)," however, that section discusses actions subsequent to an action of disapproval by the Administrator.

12. Section 7.70(8)(e)(2) requires the submittal of a certification application for each monitoring system (page 44). If a source were also subject to other programs using Part 75 reporting (Acid Rain Program, NOx Budget Trading Program, or the CAIR), would it be permissible to include non-RGGI information in this submittal, e.g., SO2 system certification testing?

13. Section 7.70(8)(b)(5) details the certification requirements for low mass emission units (page 43), and notes that a unit must qualify to use the LME methodology. The Part 75 qualification consists of three parts: 1) that the unit is oil and/or gas-fired only; 2) that the unit's SO2 emissions do not meet the ceiling limit; and 3) that the unit's NOx emissions do not meet the ceiling limit. Will all three of these qualification points be required to be met to qualify to use the LME methodology for RGGI?

14. Section 7.70(8)(c)(1) requires that missing data substitution be applied whenever a monitoring system does not meet the QA requirements or data validation requirements for various subparts (page 43). The inclusion of appendix E in this paragraph seems incorrect, since that methodology estimates NOx rate emissions.

15. Section 7.70(8)(e)(1) provides a general discussion of recordkeeping and reporting requirements (page 44). The inclusion of Subpart H in this paragraph (§ 75.73) seems incorrect, since that pertains to NOx mass emissions.

16. Section 7.70(8)(e)(2) says that monitoring plans must "comply with requirements of 40 CFR 75.62," however, this section necessarily includes non-CO2 systems; perhaps a statement of applicability should be appended (page 44).

17. Section 7.70(8)(e)(3) (page 44) says that a certification application should include the information required under CFR 75.63 and 40 CFR 75.73 (c) and (e). The inclusion of Subpart H in this paragraph (§ 75.73) seems incorrect, since that pertains to NOx mass emissions. If a source were also subject to other programs using Part 75 reporting (Acid Rain Program, NOx Budget Trading Program, or the CAIR), would it be permissible to include non-RGGI information in this submittal, e.g., SO2 system certification testing?

18. Section 7.70(8)(e)(4)(a) requires quarterly reports that include CO2 mass emissions and heat input data are to be submitted "in an electronic format prescribed by the Administrator unless otherwise proscribed by the Department" (page 44). In section (b), the report is to "be submitted in the manner specified in Subpart H of 40 CFR Part 75 and 40 CFR 75.64."

a. Is there an electronic format that is proscribed by the Department?
b. Will the RGGI program be ready to accept EDRs in XML format, if the CAMD EDRs are used for compliance?
c. Will the RGGI program accept the files with "extraneous data" (e.g., SO2 mass, QA tests unrelated to the RGGI-required instruments)?
d. The inclusion of Subpart H in this paragraph (§ 75.64) seems incorrect, since that pertains to NOx mass emissions.
e. The last sentence of this section (§ 7.70(8)(e)(4)(b)) specifically excludes opacity and SO2; does this mean that NOx emissions are required to be reported?

19. Will sources that fire eligible biomass report using the CAMD EDR structure (page 45)? How will the additional items they are required to report be handled:

-Chemical analysis of the fuel, including carbon content
-Moisture content of the fuel
-Total input, in tons, combusted
-Total input, in heat input, combusted, both as-fired and potential
-Fuel feed rate, in tons/hour
-Total operating hours for which the biomass was co-fired
-CO2 tons emitted due to firing the biomass

20. Section 7.70(8)(h) describes an "output monitoring plan" as well as the "net electrical output." Will these be formatted reports similar to an EDR, will the requirements be satisfied via data that's added to the EDR, or will the reports be word documents/ spreadsheets, etc.?

21. Section 7.70(8)(h)(1) requests reporting of "net electrical output" (page 47); should this term be defined in § 7.70(1)(b)?

22. Section 7.70(8)(h)(5)(b) discusses the QA/QC activities required for "other types" of nonbilling meter equipment (page 49). Will these QA activities be reported in the EDR? To do that, they would need to appear as components in the monitoring plan, which could be problematic, as they may not be defined component types in the EPA programs, or could represent metering systems that are not used in the EPA programs.

23. Section 7.70(8)(h)(5)(c) discusses the missing data substitution requirements for missing output readings (page 49). Must this substitution be performed by the DAHS, or would sources perform this manually? If the parameter is not reported (e.g., a temperature reading in a gas fuel flowmeter system), how will the Department know that it's been substituted?
Will codes need to be appended to this data to show its origin?

24. Section 7.70(8)(h)(6)(c) requires electronic reporting of the annual net output (page 49).
What are the specifications for this electronic report? Does it include hourly values?

25. Will all aspects of Part 75 quality assurance be allowed? Such provisions include:

-Use of grace periods for linearity and RATA tests
-Use of the QA-operating quarter concept for determining test due dates
-Provision for using like-kind replacement analyzers
-Use of conditional data validation following an analyzer repair or replacement
-Allowance for startup grace period for calibration checks
-Use of flow-to-load testing during non-RATA quarters to ensure accuracy of stack flow monitoring systems
-Use of fuel flow-to-load testing to extend field test deadlines
-Allowance for off-line calibration checks after successful demonstration is made

26. How will these non-QA issues be resolved:

-Use of bias adjustment factors – Part 75 currently has no rule for determining these for CO2 systems
-Account for emissions on unmonitored bypass stacks
-Use of diluent capping for CO2 – Part 75 currently allows it, but a soon-to-be released rulemaking will discontinue its use
-Will the Part 75 procedures for setting maximum potential CO2 and span and range for CO2 monitors be mandated? This may not be flexible enough for some sources, now that CO2 emissions will have a dollar value associated with them. If the Part 75 procedures are not followed, how will a source comply with both?

COMMENTS OF ENTERGY CORPORATION ON THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION'S DRAFT 310 CMR 7.70: CO_2 BUDGET TRADING PROGRAM REGULATIONS, DRAFT REVISIONS TO 310 CMR 7.29: EMISSIONS STANDARDS FOR POWER PLANTS REGULATIONS, DRAFT REVISIONS TO 310 CMR 7.00 APPENDIX B(7): EMISSIONS BANKING, TRADING AND AVERAGING REGULATIONS AND THE MASSACHUSETTS DIVISION OF ENERGY RESOURCES' DRAFT 225 CMR 13.00: CO_2 BUDGET TRADING PROGRAM AUCTION REGULATIONS

Introduction

Entergy Corporation and its direct and indirect subsidiaries, including Entergy Nuclear Operations, Inc. and Entergy Nuclear Generation Company, LLC (collectively, "Entergy") respectfully submit these comments in response to the Commonwealth of Massachusetts Department of Environmental Protection's (the "Department") draft 310 CMR 7.70: CO_2 Budget Trading Program regulations, draft revisions to 310 CMR 7.29: Emissions Standards for Power Plants regulations, draft revisions to 310 CMR 7.00 Appendix B(7): Emission Banking, Trading and Averaging regulations and the Division of Energy Resources' (the "Division") draft 225 CMR 13.00: CO_2 Budget Trading Program Auction regulations (collectively, the "Draft Regulations"). We understand that the Draft Regulations, which were provided for public comment on August 10, 2007, constitute Massachusetts' proposed implementation of the Regional Greenhouse Gas Initiative ("RGGI") Model Rule in the Commonwealth. Entergy appreciates this opportunity to provide comments on the Draft Regulations in accordance with the Commonwealth's rulemaking procedures outlined in M.G.L. ch. 30A, and the substantial strides that the Division and Department (collectively, the "Commonwealth") have made in developing a viable CO_2 program.

As detailed below, Entergy has developed a thorough understanding of the complexities of creating a successful cap-and-trade program for CO_2 emissions that appropriately balances important environmental objectives and an affordable, reliable and diverse supply of electricity for the Commonwealth. Entergy therefore greatly appreciates the Commonwealth's initiative in the area of CO_2 regulation and the efforts that went into preparing the Draft Regulations, as well as the opportunity to submit these comments. In particular, Entergy herein proposes an innovative new mechanism for both advancing important climate change initiatives and ensuring that the Commonwealth's most needy are able to afford the resulting electricity.

Background

By way of background, in 1999, Entergy acquired, and now owns and operates the Pilgrim Nuclear Power Station ("Pilgrim"), a 670 megawatt (MW) electric generation facility in Plymouth, Massachusetts. Pilgrim has been operating and providing electricity for the Commonwealth since 1972, and is the only operating commercial nuclear station located in Massachusetts. In addition to its critical contribution to the New England power supply, Pilgrim provides an important and too-long unrecognized environmental benefit to Massachusetts. Since the 1970s, Pilgrim and other nuclear stations have produced reliable "base-load" electricity without emitting carbon dioxide ("CO_2"), sulfur dioxide, nitrous oxides or mercury from their core electric-generating activities. The Nuclear Energy Institute ("NEI") concluded that Pilgrim's operations avoided approximately 3.37 million metric tons of CO_2 in 2006,[5] which represents approximately 13.9% of Massachusetts' initial annual budget of 26,660,204 short tons of CO_2 emission allowances under the RGGI Model Rule. In other words, but for Pilgrim's daily operations, Massachusetts's task of reducing CO_2 would be substantially more difficult to achieve.

[5] *See* Nuclear Energy Institute, "Emissions Avoided by the U.S. Nuclear Industry: State by State, 2006" (Apr. 2007) *available at* http://nei.org/filefolder/emissions_avoided_by_the_u.s._nuclear_industry_state.xls

Entergy also owns and operates facilities within other states that are participating with Massachusetts in RGGI. (Currently, the other "Participating States" are Connecticut, Delaware, Maine, Maryland, New Hampshire, New Jersey, New York, Rhode Island and Vermont.) Specifically, in New York, Entergy owns and operates three nuclear stations with a cumulative capacity of 2,775 MW, representing approximately 16% of New York State's power supply. In Vermont, Entergy owns and operates the Vermont Yankee Station, a 650 MW nuclear electric generation facility that produces more than 72% of the electricity produced within Vermont. As stated by the United States Department of Energy ("DOE"), the emission-free power from Vermont Yankee, which avoided approximately 2.95 million metric tons of CO_2 emissions in 2006, "has to be considered a significant factor" in Vermont's status as the state with the cleanest air in the nation.[6]

On a broader geographic scale, Entergy is the nation's second largest owner and operator of nuclear-fueled generation facilities, and owns or operates twelve (12) nuclear units that contribute approximately 10,467 MW of nuclear-powered electricity to American consumers. In 2006 alone, Entergy's nuclear operations avoided approximately 68 million short tons of CO_2 emissions.[7] Entergy brings to nuclear operations a proven expertise and commitment to safe, secure and cost-effective energy production that offers significant environmental and public-health benefits. Likewise, Entergy is committed to advancing renewable-power generation and already includes in its fleet substantial wind-turbine projects (in Iowa and Texas) and several hydro-electric projects (in Arkansas and Texas). Additional information about Entergy's fleet and renewable generation projects is available at http://www.entergy.com/content/operations_information/fossil_renewable_portfolio.pdf. In addition to its nuclear-powered and renewable fleet, Entergy owns or operates numerous fossil-fuel facilities, contributing to Entergy's world-wide generation of over 30,000 MW. In the context of fossil-fuel facilities, Entergy is striving for innovative new technology, such as its multi-fired Little Gypsy re-powering project in Montz, Louisiana, capable of meeting reliability and affordability goals.

Entergy is a recognized leader in efforts to combat climate change. As one of the largest producers of electric power in the United States, with both nuclear and fossil-fuel facilities in its fleet, Entergy long has embraced its leadership role in improving air quality and redressing climate change. Well before climate change was a household word, Entergy led the electric industry and American boardrooms by making a voluntary public commitment to stabilize company CO_2 emissions at 2000 levels through 2005. Cumulatively, through 2005, Entergy reduced emissions 23%, while increasing electric sales by 21% over the same period, thus demonstrating that growth could accompany innovative environmental decision-making. In 2006, Entergy expanded its commitment to stabilize CO_2 emissions at a level 20% below the 2000 levels for years 2006 through 2010. Entergy's 2006 climate-related projects included the acquisition of 300,000 metric tons of Greenhouse Gas ("GHG")-emission reductions retired as part of Entergy's voluntary emission-reduction initiative. Cumulatively through 2006, Entergy has reduced it carbon footprint by almost 30% to a level near 1990 emissions.

Furthermore and importantly for this rulemaking, Entergy has been an active stakeholder in and vocal supporter of the multi-year development process of RGGI, a frequent commenter in state-led initiatives, such as this one, and, most notably, the company that broke ranks with industry to join the Commonwealth in successfully pursuing mandatory CO_2 regulations by the United States Environmental Protection Agency ("EPA") before the United States Supreme Court. The Court's decision, in Massachusetts, *et al.*, v. EPA, requires EPA to regulate CO_2 emissions to the extent mandated by the Clean Air Act. Thus, a national program for CO_2 regulation is expected. The need to anticipate and appropriately account for this national initiative also informs Entergy's comments here.

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6 *See* id. and http://www.eia.doe.gov/cneaf/nuclear/page/nuc_reactors/reactsum.html

7 *See* Entergy's 2006 Sustainability Report, *available at* http://www.entergy.com/content/our_community/pdfs/sustainability_report_06.pdf

Comments

Entergy lauds and supports the objectives of the Draft Regulations and its framework. In particular, as Entergy noted in its comments on the RGGI Draft Model Rule, it concurs with the Participating States' recognition of the importance of advancing air quality goals with appropriate sensitivity to public health, environment, energy and related economic considerations. *See, e.g.,* RGGI Memorandum of Understanding ("the [Participating] States each individually have a policy to conserve, improve, and protect their natural resources and environment in order to enhance the health, safety, and welfare of their residents consistent with continued overall economic growth and to maintain a safe and reliable electric power supply system."); Mass. Acts of 1997, Ch. 164, § 1(h) ("reliable electric service is of utmost importance to the safety, health, and welfare of the commonwealth's citizens and economy . . . ."). As cannot be said too often, electricity is an essential service, and its reliable supply is not only an economic imperative, but a public health and safety necessity.

In recognition of the fact that the Draft Regulations are Massachusetts' implementation of the RGGI Model Rule, Entergy hereby incorporates by reference, and attaches as **Exhibit A**, those relevant comments on the RGGI Draft Model Rule and focuses herein on the aspects of the Draft Regulations that are specific to Massachusetts' implementation of the RGGI Model Rule. As the Department has noted, principal among the Massachusetts-specific provisions is the proposal to allocate nearly 100% of the Commonwealth's budget of CO_2 emission allowances to the Massachusetts Auction Account (the "Auction Account") and to further distribute such allowances via auctions administered by the Division. Entergy supports the Department's proposal to dedicate some of the Commonwealth's budget of CO_2 emission allowances to the Greenhouse Gas Credit Exchange Set-Aside Account, and recommends that such allowances be awarded on a 1:1 basis for any Greenhouse Gas Credit generated pursuant to 310 CMR 7.29 and 310 CMR 7.00, Appendix B(7).

I. Suggestions regarding the Design and Operation of Auctions of CO_2 Emission Allowances

Entergy supports a proposal to pursue a responsible auction process that observes the economic truism that an open and unconstrained auction, with clear guidelines for the use of revenues, creates a better functioning market than other options. The Commonwealth's proposal is a sound start to achieving such an auction process. Entergy's comments, below, are designed to provide additional insight, and strategic direction, with respect to the auction process and the use of proceeds. Entergy's proposal for the use of proceeds is particularly innovative, but designed to allow development of a CO_2 program which affects market behavior and the development of emission-free generation.

Briefly, Entergy urges Massachusetts to use an unconstrained, open and verifiable auction process. All fundamental auction details, including those discussed below, should be provided in the final regulations or in the documents governing any multi-state or regional auction in which Massachusetts elects to participate. Entergy recommends that the final auction process selected by the Commonwealth incorporate the following:

- Unconstrained Auctions: The tipping point for ensuring effective development of carbon-responsible technology remains uncertain. As such, auctions must be allowed to operate without artificial constraints that may negatively impact the price of the commodity (particularly those that risk sending improper price signals with respect to the emission of CO_2). For these reasons, Entergy does not support the use of caps, "opt out" or "safety" provisions in the auction process.

- Open Participation: Auctions of CO_2 emission allowances that are open to the general public represent a thoughtful and responsible market-based approach to environmental regulation. Conversely, limiting auction participation to entities requiring allowances simply reflects the allowances formula achieved through less direct means, with the result that proper signals to the market are unlikely to be sent. Entergy therefore suggests that all persons or entities be

eligible to participate equally in auctions of CO_2 emission allowances, and also be authorized to hold and transfer such allowances.

Indeed, the research group enlisted by the New York Energy Research and Development Authority, on behalf of the Participating States, to analyze auction design supported an auction format open to the public in the strongest terms.[8] Their seven fundamental recommendations included the following: "Allowance auctions should be open to any party willing and able to meet financial qualification requirements."[9] As noted above and basic economics dictates, the research group stated that limiting participants in an auction "eliminate[s] most of the advantages of having tradable allowances," effectively undermining the very process itself.[10] Also according to the group, an open auction reduces the potential for collusion and market-power abuses. Because of the significant negative effects of limiting auction participation, Entergy suggests that the proposed categories of bidders in the Draft Regulations be removed.

Further, any requirement that individuals or entities meet pre-qualification standards, including minimum financial requirements, to participate in the auction of allowances should be established and explained in sufficient detail to ensure that participation in the auctions is not inappropriately limited, e.g., so as to distort natural market operations. In particular, not-for-profit environmental organizations and small-scale renewables developers should not be constrained from participating in auctions through needlessly stringent pre-qualification standards. Certainly, standard auction mechanisms to ensure payment, and therefore proper auction function, can and should be brought to bear.

- Confidentiality of Business Transactions: The disclosure requirements applicable to entities purchasing CO_2 emission allowances in an auction must balance the objective of creating a transparent auction process with the confidentiality needs of this business sector. Thus, the clearing price for allowances and other information about the auctions should be publicized without identifying either: (i) the individual or entities that purchase allowances; (ii) the number of allowances purchased by any particular auction participant; or (iii) the price paid for allowances by any particular participant.

  Similarly, such information should be identified by the Department and the Division as information that is protected from public disclosure under the Massachusetts Public Records Law. *See* M.G.L. c. 4, § 7(26)(a) and (g) (exempting from public records data that are either "specifically or by necessary implication exempted from disclosure by statute" and "trade secrets or commercial or financial information voluntarily provided to an agency for use in developing governmental policy and upon a promise of confidentiality [except] information submitted as required by law or as a condition of receiving a governmental contract or other benefit.")

- Broad Geographic Scope of Auctions and Use of Allowances from Auctions: Because CO_2 emission allowances are fungible, (i.e., an allowance from Massachusetts' RGGI budget of CO_2 emission allowances provides the same rights to its holder as an allowance from the RGGI budget of any other Participating State), allowances sold at a Massachusetts auction should be eligible to be bought and used by individuals, entities and facilities in any Participating State. Thus, a New Hampshire facility should be able to buy an allowance in the Massachusetts auction and use it to comply with the requirements imposed by New Hampshire pursuant to RGGI. Similarly, Massachusetts' CO_2 emissions allowance auctions

[8] Dallas Burtraw *et al.*, "Auction Design for Selling CO_2 Emission Allowances under the Regional Greenhouse Gas Initiative: Phase I Research Report (Draft)," (May 25, 2007) at pg. 28, *available at* http://www.coopercenter.org/econ/sitefiles/documents/pdf/rggi_interim_report.pdf

[9] *Id.*

[10] *Id.*

should be linked to greenhouse gas programs in other states with mandatory and perhaps voluntary GHG regulations, such as California.

To the extent possible, Massachusetts should collaborate with other Participating States to create multi-state/regional auctions, provided that any such regional auction, or alternative state auction, reflect the features discussed herein and ensure against an economic downside for the Commonwealth. This will help ensure that the affordability, reliability and diversity of the Commonwealth's electric system, and the program developed here, are not compromised or diluted. Likewise, integration with a national program should be considered and accounted for.

- Involve Agencies with Energy Policy Expertise: Entergy commends the Commonwealth's recognition of the direct and inevitable relationship between climate-change regulation, electric system function and affordability. Indeed, there is little doubt that CO_2 emission standards will affect energy prices, and indeed must do so to appropriately reflect the costs of these environmental controls. As such, it is important that the regulators with the requisite expertise – that is, those whose mission is to ensure that electricity consumers within the state are provided with reliable and cost-effective electricity – play a substantial role in the implementation of the Draft Regulations. As such and consistent with its comments on the prior 310 C.M.R. 7.29, Entergy appreciates the Commonwealth's proposal for shared responsibility of this program.

  The Division has expertise with respect to energy systems, including energy efficiency initiatives, that the Department understandably does not possess. Entergy supports, therefore, the delegation of authority to the Division, subject to the approval of the Secretary of the Executive Office of Energy and Environmental Affairs, to allocate auction revenues. The proposed joint effort by the Department and the Division is not an unprecedented undertaking in the RGGI context. For instance, the RGGI-implementing legislation passed by Vermont in May 2006 calls for the Vermont Public Service Board and Agency of Natural Resources to work together to establish the necessary cap and trade program for CO_2 emissions. *See* "An Act Relating to Vermont's Participation in the Regional Greenhouse Gas Initiative," *available at* http://www.leg.state.vt.us/doc/legdoc.cfm?URL=/docs/2006/acts/ACT168.HTM. Entergy further recommends that the New England Independent System Operator ("ISO"), which manages the electric system, be included in the advisory group of stakeholders that provides advice to the Division with respect to the best utilization of the funds from the CO_2 allowance auctions.

  In particular, Entergy supports the current intention for the Division to manage the auction process in light of the fact that the Division is uniquely positioned to recognize not only the CO_2 reduction contributions of the Draft Regulations, but also their impact on the price of energy for residents and businesses throughout the Commonwealth.

- Quality Control: Any allowance-allocation method, including an auction process, should include appropriate quality control mechanisms. The Division's evaluations of the strength of the Commonwealth's energy system and determinations with respect to the need to amend the auction process, will help to ensure that auctions operate as intended, and do not negatively interfere with the reliability of the Commonwealth's electric supply. (Again, consultation with the New England ISO may also be appropriate in designing, monitoring and evaluating the success of the Commonwealth's CO_2 emission allowance auctions.) The implementation of any change to the auction system should depend on determinations regarding the strength (e.g., reliability, affordability and diversity) of the electrical system, rather than solely the cost of allowances. Similarly, the Department should defer to the Division's expertise in determining when it is necessary and appropriate to modify the method of allocating allowances.

III. Suggestions Regarding the Use of Auction Revenues

Entergy unequivocally supports those elements of the provision in the Draft Regulations, *e.g.*, 225 CMR 13.06(8), supporting uses of auction revenues to achieve "*cost minimization to electricity customers* and the promotion of energy efficiency, reliability, demand response, peak shaving (the reduction of peak energy usage), and other strategic energy goals of the Commonwealth." (Emphasis supplied.) Consistent with this proposed mandate, Entergy suggests that a substantial portion of auction revenues be reserved to defray energy costs for low-income Massachusetts residents. Low-income Americans are expected to face a particular economic burden in bearing the costs of environmental regulation, and Entergy believes that RGGI should ease, not exacerbate, their economic situation. In particular, Entergy suggests that auction revenues be allocated to a special fund available for low-income residents, ideally through application or participation in existing electricity-cost defrayment programs at the federal, state and local level, e.g., Low-Income Home Energy Assistance Program ("LIHEAP"). Integration with existing programs may reduce administrative costs and take advantage of existing networks familiar to needy electricity customers. This approach directly addresses the risk of likely impacts of the Draft Regulation on the poor. Further, appropriate use of auction revenues to encourage energy efficiency could have the auxiliary benefit of improving the short-term management of demand. Entergy recognizes the innovative nature of this proposal, and extends an offer to meet with the Commonwealth to further discuss its details.

Given the connection between reliability, affordability and fuel diversity, Entergy recommends that the Draft Regulations be revised to expressly promote low- and non-CO_2 emitting sources of electric generation as an appropriate and desirable secondary use of auction proceeds.[11] This recommended revision is consistent with the RGGI Model Rule, which provided that allowances set aside for a Consumer Benefit or Strategic Energy Purpose Account, or similar set-aside account, should be used to encourage and foster the promotion of, among other things, both renewable and non-carbon-emitting energy technologies. The observance of the principle of fuel-neutrality fosters fuel diversity, a tenet of a reliable and affordable electric system.[12] However, Entergy expressly notes that not all carbon-reduction programs are the same, with the result that "paper" reductions that entail short-term benefits should not compete with the long-term benefits of retrofitting existing carbon-emitting facilities and the addition of

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[11] *See e.g.*, ISO New England, 2006 Regional System Plan, (Oct. 26, 2006) at pgs. 3 and 7, *available at* http://www.iso-ne.com/trans/rsp/2006/rsp06_final_public.pdf ("To further improve the regional fuel mix, the ISO, with all regional stakeholders, should encourage the addition of economic alternatives to using gas- and oil-fired generation. These alternatives include nuclear energy, renewable generation, such as wind and hydro imports, and new coal technologies.") and ("RSP06 studies show that meeting RGGI's carbon dioxide cap will require stronger regional efforts in conservation and energy efficiency, the addition of low- or zero-emitting baseload generation, or a combination of all measures by 2015. If Massachusetts and Rhode Island were to join RGGI, this need could advance to as early as 2010."); *see also* ISO New England, New England Electricity Scenario Analysis, (Aug. 2, 2007) at pg. 71, *available at* http://www.iso-ne.com/committees/comm_wkgrps/othr/sas/mtrls/elec_report/scenario_analysis_final.pdf ("Thus, reducing the region's CO_2 emissions as part of complying with the Regional Greenhouse Gas Initiative would seem to require some combination of adding substantial amounts of low- or zero-emitting resources, having RGGI-affected power generators buy additional CO_2 allowances or use previously banked ones, buying offsets from outside the electricity sector, redispatching the electric system to burn fossil fuels more efficiently (or not at all), retiring some power plants that emit substantial quantities of CO_2 emissions, switching fuels, increasing imports, or using some economic combination of these approaches.")

[12] *See e.g.*, ISO New England, New England Electricity Scenario Analysis, (Aug. 2, 2007) at pg. 1, *available at* http://www.iso-ne.com/committees/comm_wkgrps/othr/sas/mtrls/elec_report/scenario_analysis_final.pdf ("To improve system reliability, system planners have identified the need to diversify the types of fuels used to generate electricity and decrease the region's dependence on natural gas."); *see also* ISO New England, 2006 Regional System Plan, (Oct. 26, 2006) at pgs. 69 and 132, *available at* http://www.iso-ne.com/trans/rsp/2006/rsp06_final_public.pdf ("For the near and long terms, the ISO and regional stakeholders, including state regulators and siting councils, must begin planning for the use of alternative resources to diversify the current mix of fuels. . . . Wind power, nuclear, new coal technologies, and additional Canadian imports of electricity must all be considered if New England is to move toward a more diversified fuel-supply portfolio.") and ("The following actions are needed to improve the reliability of the system and reduce exposure to price volatility . . . . improve the region's fuel diversity for the long term, increase renewable generation resources and consider adding new coal and nuclear technologies.")

non-emitting electric-generation. Likewise, Entergy suggests that funds should be used locally wherever possible.

Finally, the Department and the Division should take all necessary steps to ensure that auction proceeds are dedicated solely to the purposes outlined above, and cannot be inappropriately allocated or siphoned elsewhere, e.g., to the Commonwealth's general fund. Of course, decisions regarding the allocation of auction proceeds should be made in an open and transparent manner.

IV. Support for and Suggestions Regarding Offset Provisions

Entergy supports the Draft Regulations' language that: (i) allows any individual or entity to create, hold and/or transfer CO_2 offset allowances, and (ii) provides CO_2 offset allowances to projects that both reduce and avoid CO_2 emissions. This latter provision is an important step towards creating a fuel-neutral program. Although the intent of the Draft Regulations to award offsets for avoided CO_2 emissions is clear, Entergy suggests that, for clarity's sake, any reference in the Draft Regulations to the award of CO_2 offset allowance for "demonstrated reductions in CO_2" be revised to instead reference the award of CO_2 offset allowances for "demonstrated reductions in or avoidances of CO_2."

Conclusion

Entergy shares and supports Massachusetts' goal of addressing CO_2 emissions in a manner that is consistent with the RGGI Model Rule and that supports a reliable and affordable energy supply for the Commonwealth's citizens. Entergy therefore appreciates the opportunity to submit these comments and welcomes the opportunity to work further with the Commonwealth to develop a meaningful, innovative and successful regulatory program, auction system and trading program to support Massachusetts' and RGGI's progressive CO_2 emission standards. Any questions regarding our comments may be directed to Elise Zoli (at 617-570-1612).

Exhibit A

Comments of Entergy Corporation on the Regional Greenhouse Gas Initiative's Public Review Model Rule Draft 03/23/06

Introduction

Entergy Corporation and its direct and indirect subsidiaries (collectively, "Entergy") respectfully submit these comments in response to the Draft Model Rule for the Regional Greenhouse Gas Initiative ("RGGI") that was provided for public comment on March 23, 2006 (the "Draft Rule").

By way of background, Entergy owns numerous fossil-fuel facilities, generating over 30,000 megawatts ("MW") of electricity worldwide, and is the second largest owner and operator of nuclear power plants in the United States. With respect to its nuclear operations, Entergy companies own or operate eleven (11) nuclear units, five (5) of which are located in the northeastern United States. Within the RGGI Region (i.e., the states currently committed to participating in RGGI - Connecticut, Delaware, Maine, Maryland, New Hampshire, New Jersey, New York and Vermont – collectively, the "Participating States"), Entergy owns and operates: (1) Vermont Yankee Station – a 535 MW electric generation facility in Vermont that produces approximately 72% of the electricity produced within the state, and (2) Indian Point, Units 2 and 3, and the James A. Fitzpatrick Station – three facilities located in New York with a cumulative capacity of 2,775 MW that collectively produce approximately 16% of the state's power. (Because Massachusetts played a role in the RGGI-development process, it is also noteworthy that Entergy owns and operates the 670 MW Pilgrim Nuclear Power Station in Massachusetts, which, according to the New England Energy Alliance, avoids approximately 1.6 million tons of carbon dioxide ("CO_2") a year – the amount that would be generated if the facility's output were to be replaced with the output of existing fossil-fuel generation

facilities.) In addition to their critical contribution to the power supply, Entergy's nuclear facilities also provide an important and largely unrecognized environmental benefit to the RGGI Region. Since the 1970s, Entergy's and others' nuclear stations have demonstrated their value, not only by producing reliable base-load electricity, but by generating that electricity without emitting CO_2, sulfur dioxide ("SO_2"), nitrous oxides ("NOx") or mercury. Entergy brings to nuclear operations an unparalleled expertise and a commitment to safe, secure and cost-effective energy production with significant environmental and public-health benefits.

As one of the largest producers of electric power in the United States, Entergy recognizes its leadership role in delivering power while protecting the environment and public health. In particular, Entergy is committed to improving air quality and helping to successfully redress climate change. For example, in 2001, Entergy made a public corporate commitment to stabilize company CO_2 emissions at 2000 levels through 2005. Cumulatively, through 2005, Entergy reduced emissions 23%, while increasing electric sales by 21% over the same period. On May 1, 2006, Entergy expanded its commitment to stabilize CO_2 emissions at a level 20% below the 2000 levels for the years 2006 through 2010. Examples of Entergy's climate-related undertakings in 2006 include transactions involving the acquisition of 300,000 metric tons of greenhouse gas ("GHG") emission reductions that Entergy will retire as part of its voluntary emission reduction initiative and participation in Massachusetts' development of a GHG emissions trading program. Furthermore, as you are no doubt aware, Entergy has been an active stakeholder in and vocal supporter of the multi-year development process of RGGI – consistent with Entergy's support for mandatory CO_2 regulations. *See, e.g.*, CERES, "Corporate Governance and Climate Change: Making the Connection," (March 2006) at pg. 87, *available at* http://www.ceres.org/pub/docs/Ceres_corp_gov_and_climate_change_0306.pdf (" Both Entergy's CEO and Chairman have spoken publicly about the dangers of climate change . . . and the need for immediate government action."). In addition to its nuclear-powered fleet and fossil-fuel facilities, Entergy is committed to advancing renewable-power generation, and already includes in its fleet wind-turbine projects (in Iowa and Texas) and several hydro-electric projects (in Arkansas and Texas).

Consistent with its commitment to climate-change initiatives, Entergy understands the complexities of creating a successful cap-and-trade program for CO_2 emissions – one that advances important environmental objectives without compromising an affordable, reliable and diverse supply of electricity in the RGGI Region.

Entergy commends the Participating States for recognizing the interactions between environmental regulations and energy policies and creating an Inter-State RGGI Staff Working Group (the "Working Group") that includes representatives from the various public service commissions and their electric-system expertise. Entergy appreciates both the Participating States' initiative in the arena of CO_2 regulations, and the time and effort, particularly of the Working Group, devoted to creating the Draft Rule. Entergy also appreciates the opportunity to submit these comments on the Draft Rule.

Comments

Entergy generally supports the objectives of the Draft Rule. In particular, Entergy concurs with the Participating States' recognition of the importance of advancing air quality goals with appropriate sensitivity to public health, environmental, energy and related economic considerations. *See, e.g.*, RGGI Memorandum of Understanding ("MOU") ("the [Participating] States each individually have a policy to conserve, improve, and protect their natural resources and environment in order to enhance the health, safety, and welfare of their residents consistent with continued overall economic growth and to maintain a safe and reliable electric power supply system."). New, license extended and uprated nuclear facilities ("Nuclear Plants") may uniquely contribute to meeting these goals of a reliable and affordable electric-system while improving air quality.[1]

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1 *See e.g.*, Electric Power Research Institute, "2006 Portfolio: 41.010 New Nuclear Plant Deployment," *available at* http://www.epriweb.com/public/2006_P041-010.pdf ("[T]he importance of fuel diversity to better absorb shocks such as fuel supply restrictions, the need to reduce dependence on foreign oil, the need to better

Nuclear plants provide a recognized and important base-load source of power that cannot be replaced with other non-emitting generating sources, such as wind or solar projects, the operation of which cannot be assured in all conditions.[2] Nuclear facilities also provide a recognized and important market-stabilizing function through the use of long-term power-purchase agreements and their market-bidding behavior. Indeed, energy-market experts, such as ISO New England, the New York ISO and PJM Interconnection, have indicated that maintaining a sufficiently diverse source of electrical generation, including nuclear power, is necessary to ensure a reliable and affordable supply of electricity, particularly under RGGI.[3] Because of the unique and important role that Nuclear Plants play in achieving a reliable and affordable electric system that minimizes negative air quality impacts, Entergy can offer comments on the Draft Rule from a relatively unique perspective – as the second largest owner/operator of nuclear facilities in the country, and as a company that supports mandatory CO_2 regulations that would apply to its own fossil-fuel facilities.

The Draft Rule is a substantial step forward, and Entergy once again commends the Participating States and Working Group for their groundbreaking efforts. However, as currently drafted, the Draft Rule inadvertently risks creating a program in which developers are disincentivized from undertaking CO_2 emission reduction projects, resulting in a limited and overpriced market for CO_2 offset allowances. Such a result would contradict RGGI's objective of maximizing CO_2 emission reductions with minimal electric-system impacts. Entergy's comments, if accepted, resolve these risks to market function and, therefore, RGGI's goals. This is all the more important here, since RGGI, if successful, undoubtedly will be a model for future national CO_2 regulations, and, if unsuccessful, may delay implementation of important air-quality initiatives. In short, there is simply no avoiding that the future success of air-quality measures depends, in no small measure, on how effectively RGGI functions.

I Support for and Suggestions Regarding Specific Tenets of the Draft Rule

Entergy has historically advocated for the following principles and supports their inclusion in the Draft Rule as essential components in creating a program that effectively balances important environmental and public health goals with essential energy policy objectives.

- Mandatory market-based (i.e., competitive) regulation of CO_2 emissions, on either a national or regional scale. Allowing any person, whether or not regulated by RGGI, to hold, create and transfer CO_2 allowances and offset allowances fosters a free-market. Similarly, allowing Participating States to conduct auctions of CO_2 allowances with all generators, whether or not regulated by RGGI, will help create a demand, and subsequent financial value for, CO_2 allowances (i.e., CO_2 emission reductions) that will encourage the development of projects

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address pollution and global warming concerns are all reasons to provide nuclear generation in the future."); *see also* Nuclear Energy Institute, "Nuclear Facts," *available at* http://www.nei.org/index.asp?catnum=1&catid=1 ("Nuclear power plants provide low-cost, predictable power at stable prices and are essential in maintaining the reliability of the U.S. electric power system.").

2 *See e.g.*, National Rural Electric Cooperative Association, "White Paper on Wind Power," (April 2003), *available at* http://www.nreca.org/Documents/PublicPolicy/Windwhitepaper.pdf ("Power from wind and photovoltaic systems is intermittent and cannot be scheduled or dispatched reliably to meet system requirements.")

3 *See e.g.*, Mark Babula, ISO New England, "RGGI Design, Markets and Reliability – Issues Relating to Systems Operations," (Nov. 30, 2004), *available at* http://www.rggi.org/docs/babula_pres_11_30_04.ppt ("Consider fuel diversity an essential feature of electric system planning," and "reliability is paramount."); ISO New England, "Regional System Plan 2005," (Oct. 20, 2005), *available at* http://www.iso-ne.com/trans/rsp/2005/05rsp.pdf ("About two-thirds of New England generation relies on gas or oil as its primary fuel. A more diverse portfolio is highly desirable since gas and oil are the most expensive fuels, are highly volatile in price, and are increasingly dependent on imported supply.").

eligible for CO_2 offset allowances, thereby furthering RGGI's overarching objective of reducing CO_2 emissions.

- Fuel-neutral, air quality regulations. Entergy supports the flexibility awarded to Participating States with respect to allocating their CO_2 allowances and the inclusion of non-carbon emitting energy technologies as an activity to be encouraged and fostered via the sale or distribution of allowances from consumer benefit/strategic energy purpose accounts. The Draft Rule should be amended to require that any method selected for distributing CO_2 allowances to new facilities, including Nuclear Plants, treat such sources in a fuel-neutral manner.

- Involving Electric-System Experts. Involvement of regulatory agencies with expertise in energy issues should be a premium. RGGI's success depends on a resounding public perception that energy services are not compromised or made substantially less affordable. Energy regulators will have insight into the delicate balance that must be achieved, and how it is best achieved.

- RGGI's Value as a Precedent. As illustrated by its comments submitted to the United States Senate Committee on Energy and Natural Resources in connection with its April 4, 2006 Climate Conference, Entergy generally supports the use of cap-and-trade programs that recognize the contribution of all electric generators, regardless of their fuel source, as a means of achieving environmental objectives. For the sake of uniformity and predictability – factors which help businesses forecast the price of their goods and alleviate undesirable fluctuations in electricity pricing – a national standard for CO_2 emissions is preferable. RGGI is the most visible step forward to a national standard, and its relative success will in large part determine the future of CO_2 regulation. For this reason, decisions regarding the Draft Rule must be carefully considered relative to their potential national impacts.

Each of the above is addressed in greater detail below:

A. Mandatory Market-Based Regulation of CO_2 Emissions

For market-based approaches to environmental regulations to succeed, the market must be allowed to operate without artificial constraints that negatively impact the demand, supply or price of a commodity. Open access to markets corresponds to true demand, in this case, the demand for CO_2 emission reductions, which is the purpose of RGGI. Entergy therefore supports the provisions in the Draft Rule that permit any person to either hold and transfer CO_2 allowances or to create and transfer CO_2 offset allowances. Including entities beyond those units directly governed by the Draft Rule, i.e., "Non-Affected Facilities," as parties qualified to create and sell CO_2 allowances and CO_2 offset allowances is an essential component in fostering a sufficient and sustainable allowance trading market that will achieve the environmental goals of the RGGI standards, while simultaneously protecting the reliability and affordability of the RGGI Region's electricity supply. Broad access to the market ensures that CO_2 allowances and offset allowances have adequate value to encourage novel or innovative projects, including renewables or new nuclear facilities, that further the nation's twin air-quality and electric-supply goals. Entergy is aware that there is an incorrect assumption that new nuclear construction does not need economic encouragement; however, thirty years of no nuclear construction – the last new nuclear facility construction was approved in 1979 – suggests that appropriate economic encouragement is warranted. Similarly, Entergy believes that any auction of CO_2 allowances should be open to all electric generators, regardless of their fuel source or regulated status under RGGI. If the natural demand for CO_2 allowances (i.e., CO_2 emission reductions) is fettered by restrictions on issues such as auction participants, the price of CO_2 allowances could be artificially dampened, thereby creating a disincentive for the development of additional projects eligible for CO_2 offset allowances – such a result would impede the driving objective of RGGI to reduce CO_2 emissions.

B. Fuel-Neutral Air Quality Regulations

Entergy also supports the flexibility awarded in the Draft Rule to Participating States in determining how their CO_2 allowances shall be distributed – in particular, the lack of restriction on the methods that Participating States can use to distribute their assigned CO_2 allowances (other than the requirement to set-aside twenty-five percent (25%) of the allocation for consumer benefit or strategic energy purposes). This design allows Participating States to allocate CO_2 allowances to all generating facilities, regardless of CO_2 emissions, either immediately or with respect to new generation capacity. Distributing CO_2 allowances on the basis of a facility's contribution to the electric system (i.e., Megawatt-hour output), rather than CO_2 emissions, is a useful means of encouraging the use and development of electricity sources with reduced air-quality impacts, rather than simply dividing the vast majority of the pie among existing emission sources. Under this approach, a wind farm or new nuclear facility would receive CO_2 allowances in the same manner and to the same degree as a new coal-fired plant, thereby recognizing the level of CO_2 emissions avoided. This system will provide incentives for lower or non-emitting sources to enter or remain in the market, the need for which is again evidenced by the fact that there have been no new nuclear facilities built in the United Sates since the late 1970s. This system also ensures fuel diversity, one of the tenets of a reliable and affordable electric system. Similarly, Entergy also supports the Draft Rule's promotion of non-carbon emitting energy technologies as an activity that should be encouraged and fostered via the sale or distribution of allowances from the consumer benefit/strategic energy purpose account.

In short, Entergy recommends that the Draft Rule include a provision requiring Participating States to distribute CO_2 allowances to *all* new sources of generating capacity regardless of their CO_2 emissions, including Non-Affected Facilities, such as new nuclear facilities or those undergoing uprates or license extensions, based on the megawatt-hour output of such sources. (Entergy is not suggesting that the Draft Rule should require Participating States to utilize a particular method to award or distribute allowances to new generating capacity, rather simply that any chosen mechanism should be applied in a fuel-neutral manner. It is important, however, to ensure that RGGI does not create a burden on market entry for new facilities.) By proceeding with an eye to promoting a future that simultaneously incorporates air-quality and fuel diversity considerations, RGGI will best achieve its goals.

C. Involving Electric System Experts

Entergy commends the Participating States' recognition of the potential for interaction between the proposed RGGI environmental regulations and energy issues. In light of what appears to be the emerging recognition that air-quality regulations are inextricably linked to electric-system function and market pricing, it is important that the regulators with the requisite expertise – that is, those whose mission is to ensure that electricity consumers within the state are provided with reliable and cost-effective electricity – adequately participate in the design and implementation of environmental regulations. The RGGI process has acknowledged and addressed this important dynamic by establishing a Working Group with representatives from both environmental and energy-oriented public bodies. Entergy suggests that the Draft Rule incorporate language encouraging Participating States to maintain a similar level of cooperation between environmental and energy agencies as they develop and implement legislation and/or regulations to implement RGGI. The viability of such an approach at the state level is illustrated by the RGGI-implementing legislation recently passed in Vermont, which calls for the State Public Service Board to work with the State Agency of Natural Resources to establish the necessary cap and trade program for CO_2 emissions. *See* "An Act Relating to Vermont's Participation in the Regional Greenhouse Gas Initiative," *available at* http://www.leg.state.vt.us/docs/legdoc.cfm?URL=/docs/2006/acts/ACT123.HTM. Moreover, it is the Public Service Board's responsibility to establish a process to allocate Vermont's budget of CO_2 allowances and the proceeds from the sale of such credits.

II Recommendations regarding Offset Provisions of the Draft Rule

Entergy appreciates the Working Group's specific solicitation of comments on the Draft Rule's offset provisions. This section of the Draft Rule is a novel aspect of the RGGI program that, in laying the groundwork for future iterations of offset schemes, goes beyond its technical value. As discussed above, a diverse source of CO_2 offset allowances will help promote the dual goals of RGGI – effectively and continuously reducing CO_2 emissions (including through encouragement of non-emitting sources) and minimizing the impacts of CO_2 emissions standards on the electric system. Generally speaking, Entergy believes that the type of system best able to meet these objectives is one in which any project that meets specified standards is eligible to generate CO_2 offset allowances. Recognizing, however, that the Participating States have opted, for the time being, to approve only limited projects as eligible for CO_2 offset allowances, Entergy offers the following suggestions for strengthening the mechanism outlined in the Draft Rule.

Briefly:

- Include a protocol or standards allowing expansion of the projects eligible to receive CO_2 offset allowances.

- Continue to make CO_2 offset allowances available to (i) any person sponsoring an eligible project and (ii) all projects that either *reduce or avoid* atmospheric loading of CO_2 or CO_2 equivalent. To ensure that this approach is properly implemented, revise all references to the award of CO_2 offset allowances for "demonstrated reductions in CO_2" to "demonstrated reductions in or avoidance of CO_2."

- Allow CO_2 emission credits issued pursuant to programs within the United States, but outside the RGGI Region, to receive a RGGI CO_2 offset allowance if retired. Similarly, projects that retire CO_2 credits or allowances received under other mandatory or voluntary greenhouse gas programs should be eligible to receive RGGI CO_2 offset allowances.

- Avoid "regulatory plus" additionality requirements and remove those, e.g., limits on receiving funding or credits from systems benefit funds or renewable portfolio standards, that may deter development of new technologies or projects with multi-pollutant benefits.

- Avoid "financial additionality" factors requiring applicants to demonstrate that the sale of CO_2 offset allowances certified in accordance with RGGI is anything other than a relevant financial consideration prompting the implementation of a project. Removing financial additionality provisions reduces uncertainty as to which projects satisfy the Draft Rule eligibility requirements, thereby reducing the risk that investors will decline to participate in the development of new technologies in the field of CO_2 reductions. It also reflects the market reality that it is unlikely for a single factor to drive project development.

- Avoid "environmental additionality" factors that preclude projects that comply with all applicable environmental laws and regulations. Projects that have obtained all required environmental permits should be eligible for CO_2 offset allowances. Without such a guarantee, an environmental additionality requirement would risk creating a system in which offset project approvals are arbitrary and capricious.

The above comments are further detailed below:

A Protocols for Expanding the Projects Eligible for CO_2 Offset Allowances

The Draft Rule should be amended to specify a process by which the Participating States can either (i) amend the offsets provisions by replacing the limited categories of projects eligible for CO_2 offset allowances with general standards governing eligibility, or (ii) increase the list of pre-approved projects eligible for CO_2 offset allowances. Such a provision will facilitate the recognition and encouragement of the air quality benefits from existing and new non- CO_2 generating sources and the ability of RGGI to evolve in a manner that recognizes and accounts for the contribution to air quality from the development of new technologies and entrepreneurial projects that can contribute to the reduction of CO_2 emissions.

B Availability of CO_2 Offset Allowances to Projects that Reduce or Avoid CO_2 Emissions

Entergy supports the Draft Rule's provision of CO_2 offset allowances to projects that both reduce and avoid CO_2 emissions as an important step towards creating a fuel-neutral program that recognizes and encourages the important and equal contribution of renewable and non- CO_2 emitting technologies to air quality. Entergy suggests that, for clarity's sake, new language added to the Draft Rule regarding the future expansion of the types of projects eligible for CO_2 offsets, as discussed above, also specify that eligibility will be extended to CO_2 emission offsets projects that either "reduce or avoid" atmospheric loading of CO_2 or CO_2 equivalent. Although the intent of the e Draft Rule to award offsets for avoided CO_2 emissions is clear, Entergy recommends revising any reference to the award of CO_2 offset allowances for "demonstrated reductions in CO_2", such as in Section XX-10.7 of the Draft Rule, to the award of CO_2 offset allowances for "demonstrated reductions in or avoidance of CO_2."

C Availability of CO_2 Offset Allowances to Projects that Retire CO_2 Credits from other Programs within the United States

Entergy believes that offset allowances should be awarded to the retirement of any CO_2 emission credit generated outside of the RGGI Region. In other words, CO_2 credits awarded pursuant to mandatory or voluntary programs anywhere in the United States, other than the RGGI Region, should receive RGGI CO_2 offset allowances, if retired. Furthermore, projects should not be excluded from receiving CO_2 offset allowances merely because they are awarded credits or allowances under another mandatory or voluntary greenhouse gas program or market. Instead, such projects should be eligible to receive RGGI CO_2 offset allowances if they document the retirement of such non-RGGI CO_2 credits or allowances without receiving any benefits under RGGI for such retirements, i.e., RGGI CO_2 offset allowances for the retirement of emission credits. The Draft Rule should not supplant the right of a project developer or investor to choose the program under which a project will receive CO_2 offset allowances or credits. Moreover, this approach could help maintain affordable pricing for CO_2 offset allowances within the RGGI Region. For instance, if the cost of a RGGI CO_2 offset allowance is high, proponents of CO_2 emission reducing projects may choose to retire lower-value CO_2 credits from other programs and instead participate in RGGI, thereby increasing the supply of, and helping to lower the price of, RGGI CO_2 offset allowances.

D "Regulatory Plus" Additionality

Entergy appreciates that the "regulatory plus" additionality requirements included in Section XX-10.3(d)(2) of the Draft Rule do not preclude projects from receiving CO_2 offset allowances because of their participation in, or receipt of funds from, programs not explicitly listed in the Draft Rule, such as those within the ambit of the Energy Policy Act of 2005. However, the sources of funding and incentives that the Draft Rule provides make a project ineligible to receive RGGI CO_2 offset allowances are sufficiently broad that their inclusion could result in very few projects electing to participate in the RGGI offset allowance scheme, thus jeopardizing a robust CO_2 offset market and RGGI's ability to achieve its environmental objectives without causing unacceptable electric-system impacts. For instance, the Draft Rule requires project sponsors to choose between the value of RGGI CO_2 offset allowances and the credits that could be used for compliance with renewable portfolio standards; however, it is not clear that

any financial analysis has been undertaken to determine when, if at all, the value of new RGGI CO_2 offset allowances will outweigh the value of established renewable portfolio standard credits.

Moreover, the current "regulatory plus" provisions could deter the development and deployment of CO_2-emission reducing technologies that are on the cusp of economic viability or that provide multi-pollutant benefits. As written, the Draft Rule encourages developers to create projects, to the extent possible, that either only reduce or avoid CO_2 emissions or that reduce or avoid all emissions other than CO_2. Entergy therefore recommends that the "regulatory plus" additionality provisions in the Draft Rule be removed in their entirety. The impact of such deterrents on the development of CO_2 offset projects must be considered in the full context of the Draft Rule, which already includes provisions that discourage investment in projects eligible for CO_2 offset allowances. For instance, the fact that (i) CO_2 allowances do not constitute a property right, (presumably the same is true for CO_2 offset allowances although the Draft Rule is not clear on this point), and (ii) that certified projects can lose their CO_2 offset allowances based on future regulatory changes, may deter developers from undertaking or investors from financing projects eligible for CO_2 offset allowances because of the risk that any allowances eventually awarded could be taken back by a Participating State with no compensation.

E "Financial" and "Environmental" Additionality

No further financial additionality requirements should be added to the Draft Rule because such provisions will not only deter investment in CO_2-emission reducing technologies, but will also be difficult to implement, requiring regulators to "get inside" the minds of project proponents – an approach that is fraught with the risk of subjective and unpredictable implementation. More financial additionality requirements are not necessary to maintain an appropriate balance between RGGI's environmental objectives and the realm of energy policy, which is the appropriate forum for debating the role that financial considerations should play in shaping the composition of the RGGI Region's electricity supply. Moreover, adding financial factors to an additionality test could preclude the development of projects most likely to obtain financing, thus creating an obstacle to projects that could help reduce the level of CO_2 emissions – an outcome that would be contrary to the purpose of RGGI's CO_2 emission standards. Investors must be willing to facilitate and finance the development of CO_2 offset projects if RGGI is to succeed, and a level and predictable playing field is necessary to attract the requisite participation from the financial sector. Similarly, any inclusion of environmental factors in additionality requirements should not be capable of being used to prevent the allocation of CO_2 offset allowances to projects that have obtained all required environmental permits.

Conclusion

Entergy shares and supports RGGI's goal of addressing CO_2 emissions in a manner that supports a reliable and affordable energy supply for the RGGI Region's citizens. Entergy therefore appreciates the opportunity to submit these comments and welcomes the opportunity to work further with the Working Group and Participating States to help create a Model Rule and to implement legislation and regulations that will achieve a meaningful, innovative and successful regulatory program and allowance trading program to support RGGI's progressive CO_2 emission standards. Any questions regarding our comments may be directed to Elise Zoli at 617-570-1612.

LIBB/1531927.2

Environment Massachusetts

September 24, 2007

Robert Sydney
Mass Division of Energy Resources
100 Cambridge Street
Suite 1020
Boston, MA 02114

Nicholas Bianco
MassDEP
One Winter Street
6th Floor
Boston, MA 02108

Re: Comments on 310 CMR 7.70, 310 CMR 7.29, 310 CMR 7.00 Appendix B(7), and 225 CMR 13.00

Dear Mr. Sydney and Mr. Bianco,

Thank you for the opportunity to comment on the above regulations.

The Environment Massachusetts Research and Policy Center strongly supports action to reduce global warming pollution from sources in Massachusetts and the region. We applaud the Massachusetts Department of Environmental Protection (DEP), the Division of Energy Resources (DOER), and the Patrick Administration for signing on to the Regional Greenhouse Gas Initiative (RGGI) and for being the first state to propose regulations to implement that Initiative.

As we have said in other forums, solving global warming has to be one of the Commonwealth's top priorities in the coming years. And RGGI is an important tool to begin to reduce climate-changing pollution from power plants. As we have also said, it is only one among many tools that we will need to use. In order to avoid the worst impacts of global warming – the highest sea level rise, the most severe and damaging storms, the worst heat waves, the greatest number of species extinctions – we need to reduce emissions approximately 80% by 2050, and 20% by 2020. That will require deep pollution reductions from every sector, including power plants, transportation, and more.

In that context, and in the absence of federal action, immediate state and regional action is imperative. So we strongly support the adoption of a market-based cap-and-trade system for regulating global warming pollution from the power sector; and we support implementing that cap-and-trade system at the regional level.Given the dire consequences of global warming, and the frightening pace at which its impacts are beginning to appear in our daily lives, it is crucial that the Commonwealth move forward with swift adoption of strong regulations that finalize the RGGI program. We cannot afford or tolerate any delay.

One of the most important aspects of the program is the auction of pollution permits and the dedication of that revenue. The Environment Massachusetts Research and Policy Center strongly supports the findings of the report, "Cleaner, Cheaper, Smarter," recently released by the US Public Interest Research Group (http://www.uspirg.org/home/reports/report-archives/global-warming-solutions/global-warming-solutions/cleaner-cheaper-smarter-the-case-for-auctioning-pollution-allowances-in-a-global-warming-cap-and-trade-program). Specifically, we applaud the Commonwealth's decision to auction all of the pollution permits, in order to send proper signals to the market, and in order to guarantee efficient operation of the market. (We support provisions for retiring allowances for the voluntary renewable energy market.) We also support spending the revenue (a) in the electricity sector (ratepayer money ought to stay with the ratepayers), and (b) on programs that gain the greatest reductions in global warming pollution at the lowest cost. The Commonwealth ought to ensure that we are tapping all cost-effective energy efficiency programs before looking at any other ways to spend RGGI auction revenue. The

Commonwealth also ought to ensure that RGGI revenues are spent quickly and efficiently, and with strong oversight from representatives of the public.

The Environment Massachusetts Research and Policy Center strongly supports bold and comprehensive climate policies that will enable us to avoid the worst impacts of global warming. This includes capping all global warming pollution at 20% below 1990 levels by 2020 and 80% below 1990 levels by 2050. It includes adopting a suite of smart clean energy and climate policies (such as RGGI) that will enable us to hit those targets. It includes planning to ensure that we hit those targets. It also includes planning to ensure that human communities and natural ecosystems are able to adapt to any climate changes that are already "locked-in" as a result of global warming pollution. Our view is that planning for adaptation, and actual adaptation projects and programs, should be funded through clear, dedicated and direct funding mechanisms such as line items in the annual state operating budget and the upcoming environmental bond, not through a misappropriation of RGGI revenue.

As noted above, ratepayer money from the RGGI program ought to be spent on things that directly benefit ratepayers, especially as long as there are cost-effective energy efficiency measures on the table that will reduce emissions while lowering total energy bills. Adapting to the impacts of global warming that are already underway will be a large and complex challenge. We are only going to build sufficient public support for the scale of adaptation that is needed if we engage the public in an open discussion of the issue on its own terms and merits. Worse, we risk undermining public support for action to mitigate *or* adapt to global warming by, at the last minute, tucking major policy changes into regulations on discrete public policies that have already been widely debated. Finally, it is at best questionable whether spending on adaptation would be allowed by the regional Memorandum of Understanding signed by Governor Patrick entering the Commonwealth into the Regional Greenhouse Gas Initiative.

We appreciate the opportunity to comment on these regulations, and look forward to working with DEP and DOER on this and other initiatives to tackle global warming in the coming months and years.

Sincerely,

Frank Gorke
Director

Written Comments of
Before the Maine Board of Environmental Protection
on
Maine Department of Environmental Protection Draft Rules
Chapters 156 and 157
Regional Greenhouse Gas Initiative
Michael D. Stoddard, Deputy Director
and
Ellen Hawes, Policy Analyst – Forestry
September 20, 2007

I. Environment Northeast

Environment Northeast (ENE) is a Maine-based nonprofit research and advocacy organization focusing on the Northeastern U.S. and Eastern Canada. Our mission is to address large-scale environmental challenges that threaten regional ecosystems, human health, or the management of significant natural resources. From offices in Maine, Massachusetts, Rhode Island and Connecticut, ENE uses policy analysis, collaborative problem solving, and advocacy to advance the region's environmental and economic sustainability.

ENE actively supported the passage of LD 1851, which established the Regional Greenhouse Gas Initiative (RGGI) program in Maine. ENE is also part of the 24 member Stakeholder Group, selected by the RGGI states to represent consumer, electric generator, environmental, and other affected interests in the Northeast and Mid-Atlantic regions.

ENE greatly appreciates the opportunity to provide these written comments on Maine's draft rule to implement RGGI.

II. Introduction

RGGI is a policy tool that uses market forces to guide an orderly, phased transition away from dirty, inefficient electricity generation and achieves emission reductions in the most cost effective way possible. ENE commends the Governor and Department for committing Maine to participate in RGGI, as this will position Maine's industry and consumers to succeed in an economy that increasingly places a price on carbon.

For this policy tool to work, it is essential that the rules of the game in Maine are not inconsistent with the rules across the region of 10 participating states. Otherwise, the value of a CO_2 allowance in Maine will be different from a CO_2 allowance being used in another state. The result will be a lack of demand for Maine allowances or Maine offsets, or a collapse of the Maine program entirely. Some minor variations among the states can be tolerated, but they must be limited to areas that are not covered by the regional Model Rule and will not significantly change the value of the common CO_2 "currency" from one state to another.

ENE fully supports RGGI and looks forward to working with the State of Maine as it moves forward with the RGGI rulemaking process. We applaud the Department staff for bringing forward the drafts of Chapters 156 and 157 (hereinafter the Draft Rule) and encourage the Board to approve these rules after making the changes and additions suggested in this document.

III. Detailed Comments

A. Eligible Biomass (Ch. 156, Draft Rule Sec. 1.B.(55) and 5.D.2)

Eligible Biomass is defined in the Chapter 156 Draft Rule as it is in the regional Model Rule. We endorse this definition as it allows certain generation plants co-firing biomass with fossil fuels to make CO_2

deductions from their compliance obligation. Draft Rule, Section 5.D(2)(a); Model Rule Subpart XX-6.5(b)(1) (providing that regulated units may deduct from their total CO2 allowance obligation "any CO2 emissions attributable to the burning of eligible biomass…").

It is true that units burning biomass emit significant quantities of CO_2 from their smokestacks. In fact wood and biomass are more carbon intensive than coal, which makes this issue of critical importance. Nonetheless, CO_2 deductions for Eligible Biomass are allowed on the premise that the amount of carbon emitted from the combustion of a quantity of biomass is essentially the same as the amount of carbon that will be taken out of the atmosphere in the future and stored during the process of photosynthesis in biomass that regrows on land where the old biomass was harvested. This premise holds true only so long as:

- the land on which the biomass was harvested is not converted to a use that prevents regrowth of a new generation of biomass, and

- the harvest methods ensure future regrowth of an equivalent amount of biomass in a reasonable time period and avoid significant depletion of carbon in the forest soils.

While it is possible to consider neutrality on a landscape level, this is inconsistent with the facility-by-facility approach to quantify fossil fuel emissions from budget units. Furthermore, while biomass levels are currently stable in Maine, there is no assurance that this will remain so in the future. Examples of practices that would prevent sufficient regrowth on a given area of forest land include conversion of the land to development (such as a parking lot, a housing complex, or a road) or employing harvest practices that significantly inhibit future productivity, such as repeated high-grading, excessive soil compaction, or whole-tree harvesting without replenishing soil nutrients. Soil carbon can be depleted either through direct disturbance during harvesting, or indirectly in the long-term through excessive removal of harvest residues and other woody debris or erosion.

Consistent with the above reasoning, the Draft Rule provides that Eligible Biomass:
means sustainably harvested woody and herbaceous fuel sources that are available on a renewable or recurring basis (excluding old-growth timber), including dedicated energy crops and trees, agricultural food and feed crop residues, aquatic plants, unadulterated wood and wood residues, animal wastes, other clean organic wastes not mixed with other solid wastes, biogas, and other neat liquid biofuels derived from such fuel sources. Sustainably harvested will be determined by the Department. Draft Rule, Ch. 156, Section 1.B.(55), emphasis added. This definition tracks the language of the RGGI Model Rule at Subpart XX-1.2(ag).

Under the Draft Rule, old growth is not considered an eligible biomass fuel. ENE concurs that harvesting late-successional forests for biomass should not be eligible for CO_2 deductions, since it could take many decades for the forest to recapture the lost carbon. However, the Department needs to provide more detail on what old growth means, since there is no commonly accepted definition for the region.
For the sole purpose of implementing RGGI, "Eligible Biomass" could be handled in Maine either by adding further specificity to the definition of the terms "Sustainably Harvested" and to the reporting requirements for units co-firing eligible biomass in the Draft Rule, or by providing some type of formal guidance in a companion document from the Department.

Consistent with the criteria regarding land conversion and harvest methods noted above, and without comment on the standards that should apply to non-woody biomass, we recommend incorporating the following elements for a new definition of "sustainably harvested":

Section 1.B.(xx) Sustainably Harvested Woody Biomass (NEW). "Sustainably Harvested Woody Biomass" means woody biomass that the CO_2 budget source demonstrates has come from forested land that is not being converted to a non-forest land use and is not otherwise harvested in a manner incompatible with the capacity of that forest to regrow at a rate that is not less than the rate of carbon

accumulation prior to the harvest, as determined in accordance with Section 4.G. of this Rule.
Section 4.G.(1). …
(xx) NEW for each shipment of woody biomass received and claimed to be eligible biomass, the following information shall be tracked and entered into a database:
(i) name of driver and shipping company;
(ii) quantity of woody biomass being claimed as eligible biomass in this shipment;
(iii) location of the timberland or industrial source of all woody biomass being claimed as eligible biomass;
(iv) name of the business or person that owns the timberland or industrial source of the shipment;
(v) method claimed for demonstrating that eligible biomass was sustainably harvested as provided in subdivision 4.G.5.;
(vi) whether the harvested land will be converted to another land use, as documented in the harvest notification requirements of the Maine Forest Practices Act.
(yy) NEW the name and business address of all timberland owners or industrial sources from which shipments were received during the quarter, the total quantity of sustainably harvested woody biomass from each owner or source;
(zz) NEW evidence of certification, including certification number, or evidence of tax status, for any timberland that was the source of sustainably harvested woody biomass during the year
Section 4.G.(5). NEW Woody biomass will be deemed sustainably harvested for the purposes of calculating compliance obligation deductions under Section 5.D.21 [Model Rule Section XX-6.5(b)] if the CO_2 budget unit claiming to have co-fired eligible biomass provides complete, timely reports for subdivisions 4.G(1)(xx) and (yy) of this subsection and an annual report to the Department indicating the total eligible biomass fuel input (tons) from each timberland or industrial source, by location, with the proper documentation, referred to in subdivisions 4.G(1)(zz), sufficient to demonstrate the following:
(a) wood chips, trees, cord wood, tree limbs, woody debris, or tree tops delivered to the CO_2 budget unit came from timber harvest activities on lands for which there is no notification required or filed under section 8883 (b) of the Maine Forest Practices Act for forest land being converted to another use within two years, and are:
(i) enrolled in the Maine Tree Growth Tax Law program, prior to the harvest, and harvested under Maine's Master Logger Certification Program, provided that where the landowner owns less than 250 acres, compliance may be satisfied without reference to Maine's Master Logger Certification Program; or,
(ii) certified, prior to the harvest, in the Forest Stewardship Council (FSC), Sustainable Forestry Institute (SFI), or American Tree Farm System (ATFS) group certification program;
(b) wood residues are unadulterated and have been shipped to the CO_2 budget unit from industrial operations, including lumber or paper mills, provided that
(i) if mills have chain-of-custody certification from FSC or SFI, residue that results from the production of 100% certified material (SFI Certified Sourcing Label, FSC Pure) will receive 100% deduction and residue that results from the production of mixed certified and non-certified product (SFI Percent Content Claim, FSC Mixed) will receive a percent deduction based on the percent certified material produced by the mill;
(ii) if the mill does not have chain-of-custody certification, a default percentage deduction will apply to each ton of biomass CO_2 emissions to reflect the approximate percentage of forestlands under certification in the state of Maine, which percentage shall be adjusted each year as determined by the Maine Forest Service;
(iii) construction and demolition waste shall not be considered unadulterated wood and shall not be eligible biomass.
Note also that the reference to various certification programs in this straw proposal is consistent with other parts of the Maine Draft Rule and the Regional Model Rule where it is clear that afforestation projects seeking to qualify for CO_2 offset credits must demonstrate involvement in a recognized certification scheme. (Maine Draft Rule, Section 9.D.(3)(a)(ii) and (3)(f)(2)(C); Regional Model Rule Subpart XX-10.5(c)(1)(ii) and (c)(5)(ii)*(c)*.

[1] Note that this section is not listed in the Maine Draft Rule Table of Contents.

B. Fossil Fuel-Fired Unit (Ch. 156, Draft Rule, Sec. 1.B.(62))

The definition of "Fossil fuel-fired unit" in the Draft Rule at section 1..B(62) is identical with the definition in the Regional RGGI Model Rule (Subpart XX-1.2(aj)) and is the necessary definition for maintaining consistency with other states. The Draft Rule has added a clarifying section to the language of the statute in order to bring the Maine rule into conformity with the Regional Model Rule, this is a typical and appropriate function of the Department to flesh out implementation details in a rulemaking. Regrettably, the Maine statute is slightly inconsistent with the Regional Model Rule when it attempted to restate the definition of fossil fuel-fired in the form of an exemption for a unit if "Fifty percent or more of its annual heat input comes from the combustion of fuels other than fossil fuels" (38 MRSA Sec. 580-B.1.C.). The statute language failed to fully restate the Regional Model Rule, however, neglecting the necessary clarification that this exemption applies only to units that commence operation prior to January 1, 2005. For units commencing operation on or after that date, the Regional Model Rule limits the exemption to those units that co-firing no more than five percent from fossil fuel. The Department's Draft Rule reinstates this important language. If such a clarification can be incorporated through rulemaking, such as by adding it to the Chapter 157 major substantive rulemaking, to bring the statute into conformity with other states, we encourage this path. If not, this is a subject that may need to be fixed through legislative amendment.

C. Operation of the CHP Set Aside (Ch. 156, Draft Rule, Sections 1.B.(71) and 2.B.)

The statute is clear and exhaustive in stating that its intent is to provide a very limited set aside of CO_2 allowances for combined heat and power (CHP) units that are located at integrated manufacturing facilities (IMF) and that are existing units at the time of the bill's passage.

The Act reinforces the legislative intent to limit this to existing units in its language justifying the limited special treatment afforded to the two CHP budget units (at the mills in Bucksport and Jay) presently counted in Maine's CO_2 budget on the grounds that:

"Because certain CO2 budget units have substantially reduced CO_2 emissions from their facilities prior to the effective date of this Act and operate as highly efficient resources…" therefore the DEP is directed that its rules "must be designed to recognize that full operation of generating units in existence on the effective date of this Act …"

LD 1851, Sec. 18.4, emphasis added.

As further evidence of this limitation, the statute defines an "integrated manufacturing facility" as one that makes electricity for export onto the grid and routinely makes other products for sale and "... received an air emission license from the (DEP) prior to the effective date of this subsection." (Section 580-A.14, emphasis added).

In the description of the operation of the CHP/IMF set aside, the statute reinforces that the set aside, as currently authorized, is for limited use where it provides: "The department shall use these (set aside) allowances for existing CO_2 budget units …"

38-A MRSA 580-B.8, emphasis added.

Nonetheless, in the Draft Rule the DEP has dropped the statute's date restriction in the definition of an Integrated Manufacturing Facility (indicated in the underline language, above). The remedy is simple. The date restriction must be returned to the definition in the Draft Rule so that it reads the same as the statute, as follows:

"Integrated manufacturing facility" means a facility that:

(a) Has received an air emission license from the Department. prior to the effective date of this subsection." (Additions in underline) Ch. 156.1.B(71)(a).

In addition to the plain intent and language of the statute, there are good policy reasons to insist that the CHP set aside be limited to only integrated manufacturing units that "existed" or "received an air emission license" prior to RGGI.

First, it would be a shame to adopt rules that would cause a "run on the bank," causing Maine to lose the projected $10-25 million year of projected RGGI Trust Funds that many policymakers and stakeholders expect to be invested in new energy efficiency measures across the state. The two existing CHP units at integrated manufacturing facilities that already have air licenses are extremely large units and have "Behind-the-meter" emissions that are projected to use up as much as 1 million of Maine's nearly 6

million available CO_2 allowances. If many new CHP units at manufacturing sites are allowed to participate, they may soak up all of Maine's remaining 5 million allowances leaving nothing to be auctioned, and no proceeds for the RGGI Trust to be invested in energy efficiency.
Second, it would be regrettable to adopt rules that would cause a rush to build new CHP units if those units would result in a net increase to the state's CO_2 emissions. This would effectively lead to an emission leakage problem within Maine and the RGGI region as a whole. CHP units are not all, *per se*, highly efficient or lower emitters of CO_2. There are some CHP units types and some applications under which the net CO_2 emissions would higher than if the facility used local power from the grid and an efficient stand-alone boiler. To the extent the Maine Draft Rules encourage CHP construction or operation in the future, or accommodate existing CHP units exporting some of their electricity generation to the grid, they should do so only where such CHP is highly efficient and environmentally preferable to the alternatives.

D. Authority to address Cap Level (Draft Rule Section 2.A, p. 17)

ENE is concerned that the base budget for the Maine CO_2 Budget Trading Program is defined in the regulations without any provision for future adjustments. Should such adjustments be deemed important, Maine may need to go back to the legislature or amend these rules unless some provision is made for this eventuality.
New information on energy use, preliminary emissions data, and industry news reports have led ENE to be concerned that the RGGI cap level has been set too high. Since the states have not compiled and released emissions data for the RGGI regulated facilities for 2005 or 2006, ENE is in the process of compiling emissions data for more recent years and our preliminary results indicate that the emissions trajectory was down significantly in 2006.

Based on our review, the regional RGGI cap is significantly above total regional emissions for the 1995 to 2005 time period. Emissions were highest in 2005 when the cap would have been about 3% higher than the regional emissions level. With the decline in emissions that occurred in 2006, the cap level is approximately 15% higher than emissions. The potential impacts of having a starting cap that is so high above actual emissions in the early years of RGGI include:

- no market for RGGI allowances,
- no change in our power plant dispatch,
- delay of any shift in the way we make power away from dirtier, inefficient sources to cleaner, more efficient sources
- failure to position our regional economy to take advantage of expected carbon regulations from the federal government
- loss of $10-25 million for new efficiency investments

There are several mechanisms which can be utilized to make sure that RGGI is successful, including reducing the initial cap level and/or retiring CO_2 credits if a reservation price has not been met.
Public commitments and modeling done for the RGGI process were designed to establish the cap at a level equivalent to current emissions. The states should review emissions data through 2006 and early 2007 and reassess as needed whether this goal has been achieved in light of any new data or corrections to older data. ENE believes that the states should collectively incorporate 2005 and 2006 emissions data and ensure that the cap is set at a level consistent with recent emissions (such as the 2004 to 2006 average emissions level); this may require the states to reduce the regional cap level and thus state-by-state cap commitments. For this reason, we believe the Draft Rule at Section 2.A. should be amended to provide authority for the Commissioner to reduce the cap level consistent with:

• any future changes to the RGGI Memorandum of Understanding among the participating states, or

• subject to any regionally applied mechanism (such as a reserve price / retirement mechanism, described below) that indicates an adjustment for the emissions budget levels indicated in Section 2.A.

In addition to reviewing the cap level, the states should continue to move forward with the inclusion of a reserve price in any auction design, but should send a clear signal to the market by retiring allowances that are withheld and not holding them for future auctions – this should be a policy to address cap level concerns and not a mechanism to ensure the auction delivers revenue to the states.

We support providing authority in the Draft Rule for the Department to participate in the establishment of a regional reservation price. We believe that all states should have a reservation price and that it should be a regional price. While we support the use of a reserve price in the auction, ENE believes that it should be combined with allowance retirement, especially in the first compliance period if the cap level has been set higher than current emissions.

The reserve price in the first compliance period should be utilized along with allowance retirement and not just allowance banking. Only retirement will lead to environmental benefits if the cap has been set too high. We would suggest a process such as the following for the reserve price in the first compliance period, and potentially subsequent periods:

• The states should agree to this process through an amendment to the MOU;

• The states should agree to a reserve price (potentially at an undisclosed level as recommended in the draft Auction report), but we believe this should be at least $2-3 per ton CO_2;

• If the reserve price is not met, the auction design should facilitate the retirement of allowances until the minimum price is achieved;

• Allowances retired should be done so proportionally by each state based on their relative cap level;

• It should be clear to market participants that allowances retired in the first compliance period will be permanently retired, as uncertainty about future availability will add some risk to the market.

As a result, we hope that Section 2.A. or 2.B. of the Draft Rule can be modified so that any CO2 allowances left unsold are permanently retired to help reduce the cap level.

E. Encourage Renewable Energy Development in Maine (Ch. 156, Draft Rule, Sec. 2.B(6))

ENE supports the inclusion of the set-aside for voluntary renewable purchases in the state rulemaking process. (Regional Model Rule section XX-5.3(D). ENE believes that retiring credits in an amount equal to the avoided CO2 emissions of voluntary renewable energy power purchases by Maine consumers will provide modest support the voluntary renewable market by ensuring that the marketers can continue to claim in their marketing materials a reduction in carbon emissions.

F. Early Reduction (Ch. 156, Draft Rule, Section 2.C)

ENE does not believe that the Draft Rule should adopt the early Reduction Allowance provisions of the model rule. Since early reduction allowances are not included in the auction, we believe that this provision goes against the state's commitment to auction almost all allowances, especially since the early reduction allowances would be given away for free. Also, the early reduction allowances are in addition to the cap. Since there may be an over allocation of carbon credits, this provision will inflate the cap even more. Finally auctioning of allowances will also increase the incentive companies have to make plant improvements early as they will have to pay for 100% of their allowance needs during the first year of the program.

G. Increase Flexibility to Adapt the Rule – Offsets (Ch. 156, Draft Rule, Sec. 9)

In Connecticut's draft regulations, the Connecticut Department of Environmental Protection (CT DEP) separated their draft regulations into two components, one for general RGGI rules and one relating to offsets. This way if the category of eligible offsets is expanded, CT DEP will not have to reopen all of their RGGI regulations, only the section that pertains to offsets. ENE suggests that Maine consider separating their RGGI regulations and make the offset section a stand-alone regulation.

H. Good Governance Process for Waivers (Ch. 157)

Chapter 157 as drafted provides authority and a process for the Department to provide RGGI program waivers or suspension. ENE remains extremely concerned that criteria and process spelled out in the Draft Rule are subject to prejudicial, unfair application. If left unchanged, at a minimum this rule could have the perverse impact of bringing uncertainty to the marketplace, where some market players prepare for and make hard investment decisions while others try their luck in getting a reprieve from a political appointee. We note that there are already numerous mechanisms to bring flexibility and limits on economic impacts to the RGGI program. For example, budget sources may purchase lower cost carbon offsets for a portion of their total compliance obligation. Moreover, if allowance prices should exceed certain pre-set targets (e.g., the "Safety Valve Threshold"), a "trigger event" occurs in which the compliance period may be extended by one year (i.e., to four years total) and the scope and quantity of eligible carbon offset projects is expanded. These flexibility measures should have the effect of dampening CO2 allowance prices. ENE recommends that the Draft Rule be amended to require that before a suspension is granted, at a minimum, the region must have already triggered the Safety Valve Threshold event, indicating that the regional flexibility and relief mechanisms have been exhausted first.

Additionally, we encourage the Department to enhance the transparency in the process for reviewing and granting waivers or suspensions. Certainly the 30 day review period presently contemplated allows time for interested stakeholders to be given notice and an opportunity to comment and we believe this should be required. Moreover, given that the compliance period is a total of three years, it seems unnecessary to rush these reviews. There is no requirement under the rules that a budget source purchase allowances on any given day. The only situation in which a budget source would, in effect, be under time pressure would be if they had waited much too long to purchase allowances and the end of the compliance period was imminent. We suggest that the process in the Draft Rule be amended to allow 90 days for applications that occur more than three months before the end of a compliance period, and keep it at 30 days for applications that occur in the last three months of a compliance period.

Environmental Entrepreneurs (E2)

Testimony of Environmental Entrepreneurs (E2), September 24, 2007
-310 CMR 7.70 "Massachusetts CO2 Budget Trading Program" Amendments to 310 CMR 7.00 et seq.
-310 CMR 7.29 "Emissions Standards for Power Plants"
-310 CMR 7.00: Appendix B(7) "Emission Banking, Trading, and Averaging"

Thank you for the opportunity to comment on the Massachusetts plan for implementing the Regional Greenhouse Gas Initiative (RGGI). I am writing on behalf of the New England Chapter of E2 (www.e2.org), a national community of more than 800 business leaders -- 70 of them in Massachusetts -- who believe in protecting the environment while building economic prosperity.

Environmental Entrepreneurs (E2) strongly supports RGGI and commends the DEP for its support of auctioning 100% of the allowances. We believe this will stimulate jobs, grow the economy and position Massachusetts to be a leader in the emerging Clean Energy Economy.

However, we are concerned about several issues:
- Ensuring that the current cap level accurately reflects current emissions
- Providing market stability for emission allowances
- Encouraging renewable energy

E2 is widely recognized as a resource for understanding the business perspective on environmental issues. As a group of entrepreneurs, investors and professionals who have collectively started over 800 businesses which in turn have created over 400,000 jobs, we believe that Massachusetts has many of the right ingredients to be a leader in the emerging clean energy industry. Our recent E2 report titled "*Creating Cleantech Clusters: 2006 Update -- How Innovation and Investment Can Promote Job Growthand a Healthy Environment*" bears directly on this issue.

The Massachusetts' Economy Will Benefit from Auctioning 100% of Allowances

The future solutions to global warming offer an unprecedented opportunity for Massachusetts to become a leader in the emerging clean energy industry that will fuel the 21st century. The potential is enormous. Worldwide annual revenue for renewable energy rose nearly 39% in 2006 – from $40B in 2005 to $55B in 2006. The industry is projected to become a $226 billion market by 2016. In 2006, investment in energy tech startups was over $2.4 billion, a yearly increase of 262 percent.1

Massachusetts is well positioned to take a leadership role in the Clean Energy industry. A recent survey shows that Clean Energy is poised to become the 10th largest sector in the Commonwealth with 556 companies, over 14,000 employees, and a 20% annual growth rate. Because of the way electricity is priced, the impact on ratepayers will be the same regardless of how the RGGI allowances are distributed.

The only question is: Who will reap the benefits – power companies in the form of windfall profits or Massachusetts taxpayers?

Auctioning 100% of the allowances will create more jobs
Redefining Progress, an independent economic analysis group, makes a compelling case for auctioning 100% of the pollution allowances, rather than giving them away, based on the fact that auctioning will create more jobs.

1 Clean Energy Trends 2007, CleanEdge, www.cleanedge.com

"Spending from the revenues generated by a carbon permitting system will probably create many more jobs...Conversely, carbon permit systems that are grandfathered (given away to existing polluters for free) tend to reduce in-state employment. Grandfathered permits, like auctioned permits, drive up the price of fossil fuels and fossil-based electricity by constricting the supply.

However, if the permits are sold, the revenues from this price increase will be spent in-state." 2 Moreover, the renewable energy sector generates more jobs per megawatt of power installed, per unit of energy produced, and per dollar of investment, than the fossil-fuel-based energy sector.3 As Massachusetts' innovative companies move from development into implementation and manufacturing -- where the majority of jobs are created -- will they decide to stay here in Massachusetts or relocate to a more favorable state or country? Evidence suggests that state environmental and regulatory policy is an important factor.4

Auctioning 100% of Allowances Will Increase Energy Efficiency and Reduce Costs

Energy efficiency — getting more and better output using less energy — is the quickest, cheapest, cleanest answer to the looming energy crisis. Using the revenue generated by the RGGI auction for energy efficiency will reduce overall costs to ratepayers and industries.

California has proven that it works. Since 1974, that state has held its per-capita energy consumption essentially constant, while energy use per person for the United States overall has jumped 50 percent. California has cut greenhouse-gas emissions, maintained economic growth and reduced energy costs for the average Californian family by about $800 a year due to energy efficiency.5

Here in Massachusetts, a report commissioned by the DOER estimates that if the money raised by the RGGI auction were fully invested in energy efficiency, commercial customers would save about 8.1% of their bills and industrial customers 4.7%.6 This reduction more than outweighs the impact of any rate increases, even under the worst-case modeling scenarios.

Auctioning 100% of the Allowances Will Help the State Compete in the Clean Energy Economy

If we miss this opportunity, Massachusetts may end up an "also ran" in the Clean Energy economy. Many states are jockeying for position. The funds raised by the RGGI auction can help level the playing field. California, which recently passed the nation's most stringent caps on Global Warming, is seeing a surge in Clean Energy investment and a considerable increase in jobs. Even within our own region we risk falling behind. New York, Vermont, Maine and Connecticut have announced that they will auction 100% of their RGGI permits and it is highly likely that New Jersey will also.

There's no question that some industries will fare better than others; our job is to minimize the negative impacts to old line industries and encourage the growth of the next generation emerging industries like Clean Energy. One of the most economically effective things we can do is to auction 100% of the RGGI allowances and use the funds to invest in energy efficiency and renewables.

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2 J. Andrew Hoerner, "Regional Initiatives to Reduce Greenhouse Gasses: The Crucial Importance of Auctioning Permits for Jobs, Competitiveness, And Equity, 2004, Redefining Progress,
3 Kammen, D., Kapadia, K., & Fripp, M. "Putting Renewables to Work: How Many Jobs Can the Clean Energy Industry Generate?"
Energy and Resources Group/Goldman School of Public Policy at University of California, Berkeley. (2004)
4 Creating Cleantech Clusters: 2006 Update, E2 and NRDC,
http://www.e2.org/ext/doc/2006%20National%20Cleantech%20FORMATTED%20FINAL.pdf
5 Seattle Times, March 9, 2007, "California: the energy miser?"
6 "The Impact of Energy Efficiency Measures integrated with the RGGI Policy on Residential, Commercial, and Industrial Customer
Consumption and Bills," Mass. DOER, Dec. 2005.

Concerns with the Implementation Plan

While E2 is generally supportive of the proposed regulations, we have some major concerns that if not addressed could impact the success of RGGI in Massachusetts and the region.

1. Ensure that the Current Cap Level Accurately Reflects Current Emissions
The goal of the program is to reduce the long-term costs of addressing climate change by imposing a cap on CO2 emissions from power plants that is equal to the current level of emissions and gradually reducing the cap over time. However, if data demonstrates that the RGGI cap level has been set too high – which many believe to be the case – the program will not achieve its goal. The emissions data from the last three years must be factored into the cap level. The DEP regulations should be changed to include an option for the Commissioner to reduce the cap if average emissions are significantly lower than actual emissions calculations based on the best available data.

2. Provide Market Stability for Emission Allowances
It will be important to the success of the program to have a reliable market for the pollution allowances. In the EU when it became clear that the Kyoto cap-and-trade system had more allowances than were expected, the price of allowances dropped by a precipitous 65% and called the entire trading scheme into question. To forestall this type of market volatility we endorse the DOER's inclusion of a reserve price in any auction design. In addition we believe that the administration needs to send a clear signal to the market by retiring allowances that are withheld and not keeping them for future auctions.

3. Support Development of Renewable Energy
E2 strongly supports use of the RGGI auction funds primarily for energy efficiency. However, we believe that we need to encourage the development of renewable energy by using some portion of the money – perhaps 5 to 10% -- for incentives for renewable energy. In 2005 our utilities were able to supply only 1.3% (664 thousand MWh) of the RPS requirement of 2% from renewable energy. Moreover, Massachusetts utilities are not generating this renewable power within our own borders but instead are buying it from adjacent locations. New York provided 44.2 percent of the new renewable energy to Massachusetts in 2005, while qualified Massachusetts sources increased by only 4 percent.7

While we support the proposal to retire CO2 allowances from the state budget for voluntary purchases of qualified renewable energy, we believe that putting a cap of 200,000 allowances on this source is a mistake. The voluntary market is a key driver of renewable energy development, and Massachusetts is a leading source of the technology and products involved. Failing to fully account for voluntary renewable energy purchases would effectively tell some potential buyers of renewable power not to bother, as their purchases might not count towards reducing carbon emissions. Community wind projects and their accompanying economic benefits and jobs would be hurt, in that they would not be able to rely on the sale of allowances to boost their viability.

Thank you for the opportunity to comment on an issue vital to the future of the business environment in the Commonwealth. We look forward to further participation in this process.

Sincerely,
E2 Policy Committee

Berl Hartman
Principal, Hartman Consulting
E2 New England Chapter Leader

John Harper
Vice President Finance, ZeGen
E2 New England Member

David S. Miller
General Partner, Clean Energy Venture Group
E2 New England Chapter Leader

Dan Goldman
CFO, GreatPoint Energy
E2 New England Chapter Leader

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7 Massachusetts Renewable Energy Portfolio Standard Annual RPS Compliance Report For 2005, February 20, 2007
http://www.mass.gov/doer/rps/rps-2005annual-rpt.pdf

FPL Energy

September 24, 2007

Sent via Email:
Nicholas.M.Bianco@state.ma.us

Mr. Nicholas Bianco
Massachusetts Department of Environmental Protection
One Winter Street, 6th Floor
Boston, MA 02108

RE: Comments on Proposed RGGI Regulations

Dear Mr. Bianco:

FPL Energy (FPLE) is one of the largest and cleanest power generators in the nation with operations in 25 states. We are the largest generator of hydroelectric power in Maine, the largest generator of wind power in the country and operate the largest solar facility in the world in California. We also own and operate two nuclear-powered plants.

FPL Group, our parent company, has consistently demonstrated leadership regarding the critical issue of reducing greenhouse gas emissions. We have participated in Department of Energy's Voluntary Reporting of Greenhouse Gas Emissions 1605(b) program since 1995. Our most recent report documents a 28% reduction in our greenhouse gas intensity over 1990 levels through efficiency gains, repowering to lower carbon emitting fuels and increasing our portfolio with new non- and low-emitting generation. FPL Group is a charter member of the U.S. Environmental Protection Agency's Climate Leaders Program. Additionally, it is one of fourteen original signatories of the U.S. Climate Action Partnership (USCAP), an alliance of diverse organizations such as BP America, General Electric, Environmental Defense, Pew Center on Global Climate Change and the World Resources Institute. This alliance has called on the federal government to quickly enact strong national legislation to achieve significant reductions of greenhouse gas emissions.

On a more local level, FPLE has been participating in the development of the Regional Greenhouse Gas Initiative since its inception. We are pleased to now provide the following comments regarding the proposed adoption of 310 CMR 7.70 (Massachusetts CO2 Budget Trading Program) and proposed amendments to 310 CMR 7.29 (Emissions Standards for Power Plants) and 310.CMR 7.00 Appendix B(7) (Emissions Banking, Trading and Averaging).

FPLE applauds the efforts of the Regional Greenhouse Gas Initiative as a way to facilitate discussion for a national greenhouse gas reduction program. The best way to address this global issue is by the development of a national, upstream, economy-wide program and we urge Massachusetts, and all the RGGI states, to work toward that effort.

As Massachusetts took early action to reduce CO2 emissions from certain power plants, we support its proposal to sunset those provisions in order for there to be a consistent, single program with which all affected facilities must comply in the future. We urge Massachusetts to include similar provisions to sunset RGGI when a federal program takes effect.

We believe the Massachusetts proposal contains several items that are suitable for transition into a national program. First, we support Massachusetts' decision to auction nearly 100% of allowances. This allows the price of carbon to be fully realized in the price of electricity. In turn, this will drive behavior toward more efficient generation, development of cleaner technologies and carbon sequestration, more renewables and demand-side reductions.

While FPLE agrees with the temporary set-aside of allowances for transitioning Greenhouse Gas Credits from the existing state program (with any unused allowances being returned to the Massachusetts Auction Account), we do not feel the inclusion of a set-aside for Voluntary Renewable Energy (VRE) purchases is necessary. Massachusetts currently has a renewable portfolio standard that increases every year to encourage new renewables. This proposed new set-aside would only serve to reduce the Massachusetts cap, thereby disproportionately harming Massachusetts consumers compared to other RGGI participating states and even more as compared to non-RGGI states. If Mass DEP determines it is in the best interest of the state to include this set-aside, FPLE urges that the 200,000 allowance cap not be increased. We also request that VREs be made available not only through Energy Service Providers (utilities), but also through third party energy suppliers. We see no reason to limit the source of VREs.

During the development of the RGGI program, the regional discussions included concerns about a state's ability to protect its consumers should great harm come from participating in the program. As a result, the Memorandum of Understanding includes a provision by which a state may withdraw from the RGGI program upon 30 days written notice. We would encourage Massachusetts DEP to preserve this option, similar to Maine's inclusion of program waiver and suspension provisions.

Our last comment concerns the expansion of the CO2 Offset categories. While we understand the requirement to begin the program allowing only the offset projects categories specified in the MOU and Model Rule, we would encourage Mass DEP to work closely with the Regional Organization, once one has been established, to expand those categories and facilitate the availability of offsets for compliance flexibility.

FPLE appreciates the opportunity to provide these comments to DEP. We will be providing additional comments to the Massachusetts Department of Energy Resources regarding their draft CO2 Budget Trading Program Auction Regulation. Thank you for your consideration.

Sincerely,

Lynn Smallridge
Environmental Specialist

First Light

September 24, 2007

VIA ELECTRONIC DELIVERY
Nicholas.M.Bianco@state.ma.us

Mr. Nicholas M. Bianco
Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108

Re: Written Testimony on Draft 310 CMR 7.70 Massachusetts CO_2 Budget Trading Program; 310 CMR 7.29 Power Plant Regulations and 310 CMR 7.00 Appendix B(7) Greenhouse Gas Banking and Trading

Dear Mr. Bianco:

FirstLight Power Resources, Inc. (FirstLight) owns and operates a number of power generation facilities including the Mt. Tom Generating Station located in Holyoke, MA. FirstLight would like to thank the Massachusetts Department of Environmental Protection (DEP) for the opportunity to submit the following testimony on the proposed regulations pertaining to Massachusetts' implementation of the Regional Greenhouse Gas Initiative (RGGI), the revised Power Plant Regulations, and the Greenhouse Gas Credit Banking and Trading Regulations.

Summary

FirstLight supports the goals of the RGGI program to reduce greenhouse gas emissions and recognizes the challenges faced by the DEP in developing implementing regulations that further those goals. However, as described in more detail below, absent certain revisions, the proposed CO_2 Budget Trading Program and Auction Regulations will have the unintended adverse consequence of increasing the costs of generation in Massachusetts resulting in a significant negative impact on electric customers in the Commonwealth. In addition, we ask DEP to encourage DOER to participate in the multi-state auction process so that many of the same negative consequences described below that would result from inequities between RGGI and non-RGGI states are avoided by maintaining an even playing field among generators in the various RGGI states.

The following is a summary of key features that FirstLight urges the DEP to incorporate into the draft regulations:

- The "leakage" issue should be addressed by assessing a RGGI Allowance Cost on imported electricity
- The RGGI offset categories should be expanded
- The definition of "biomass" should be clarified and expanded
- The determination should promptly be made by DEP that insufficient GHG Credits exist in the immediate geographic region

1. A RGGI Allowance Cost should be Assessed on Imported Electricity to Address Leakage

The absence of a national program to reduce greenhouse gas emissions will lead to increased costs for generators located in RGGI states compared to those of generators in non-RGGI states. As a result, those generators in non-RGGI states will run more and export their electricity into the RGGI states, potentially leading to greater CO_2 emissions from generators in non-RGGI states than would have been emitted from the plants in RGGI states whose generation has been displaced. These increased costs may also cause generators in RGGI states to shut down, with the accompanying loss of jobs and tax revenue, leaving RGGI states dependent on outside generators to supply needed electricity. To prevent this from happening, the RGGI states should assess a similar RGGI allowance cost on imported electricity from CO_2 emitting sources located outside the RGGI region. Failure to assess this cost could reverse a significant portion of the CO_2 reductions that would be realized by RGGI.

2. The RGGI Offset Categories should be expanded

One of the benefits of a cap and trade system is the unleashing of creative solutions to control CO_2 emissions. Limiting the technologies that are eligible for RGGI offset credit as defined in 310 CMR 7.70 (10) defeats this valuable benefit. Instead of identifying a few known technologies, the RGGI states need to create a mechanism where new technologies can be evaluated and approved as they can demonstrate effective CO_2 control.

For example, carbon sequestration, forestry management, the destruction of refrigerant gases that are potent greenhouse gasses, the long term sequestration of CO_2 through ecosystem restoration via photosynthesis, efficiency upgrades at existing fossil-fueled plants, and efficiency upgrades at hydro facilities are valid CO_2 reduction techniques and should be eligible for RGGI offset qualification.

Although these categories are not included in the RGGI Model Rule definition, states do have the discretion to modify their regulations to include other source categories and we encourage DEP to incorporate such modifications.

3. The Definition of Biomass should be Clarified and Expanded

The definition of biomass as stated in 310 CMR 7.70 should be expanded to include any renewable fuel or resource so that generators will have incentive to augment current fossil fuel use with renewable resources. The definition of eligible biomass should not be limited to burning wood products only.

Additionally, FirstLight urges DEP to consider allowing generators who convert more than 50% of their fuel to renewables after the compliance date of January 1, 2005 to receive the biomass exemption from RGGI. This incentive would provide greatly incentivize fossil fuel fired generators to invest in such a conversion.

4. DEP Should Promptly Make the Determination of Insufficient GHG Credits in the Immediate Geographic Region

The DEP should determine now that insufficient projects are available in the immediate geographic region for certification under 310 CMR 7.29 and Appendix B(7).

Affected generators have been unable to locate sufficient offset credits in the immediate geographic region that are eligible for certification under 7.29 to support its 2007 and 2008 compliance needs. The current regulation does not determine if a trigger price that will expand the search area is met until the end of the calendar year. Waiting until year's end will not provide adequate time for generators to reach compliance through the purchase or generation of offset credits. Therefore, we urge the DEP to make the

determination now that there are insufficient offset credits under 7.29 available in the immediate geographic region for purchase for the 2007 and 2008 compliance periods. This determination will open the offset pool to projects located anywhere on earth and certification and verification of CO_2 allowances from any allowance or credit systems, as noted in Appendix B(7). Since GHGs are a global, not a regional issue, CO_2 reductions anywhere contribute equally to the solution.

We urge the DEP to carefully consider our comments before finalizing the RGGI and Auction Regulations. We would welcome the opportunity to discuss our comments in person at your convenience. If you wish to discuss these comments, please call me at 860-895-6918 or Cynthia Vodopivec at 860-895-6961.

Sincerely,

James A. Ginnetti
Vice President-External Affairs

Patricia Haddad, Massachusetts State Representative

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September 21, 2007

Mr. Nicholas M. Bianco
Massachusetts Department of Environmental Protection
Bureau of Waste Prevention
One Winter Street
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RE: MA RGGI Implementation Rules. 310 CMR 7.70

Dear Mr. Bianco:

I am writing to comment on 310 CMR 7.70, DEP's draft regulation establishing the Regional Greenhouse Gas Initiative (RGGI) Program in Massachusetts. Global warming is a significant problem and the Massachusetts Department of Environmental Protection is to be commended for taking action. While I support in general the program that you have outlined, I believe that there are a few areas in which the regulations should be altered.

Earlier this year, I joined in a meeting with Ian Bowles and Senator Menard at the Brayton Point Power Plant in Somerset. A: that meeting, Secretary 3owles indicated that if RGGI had dramatic affect on the facility or on the cost of energy, then the state would immediately withdraw from RGGI.

The draft regulations do not include any such language. Massachusetts already has very high cost energy and cannot afford the possibility of a significant spike in the price of energy. Because electricity is so critical and its cost is so important to every resident and every business in the Commonwealth, DEP needs to be extra cautious with this regulation. Including language which allows the state to immediately withdraw would be most appropriate. The Legislature in the State of Maine passed similar language due to its uncertainty with RGGI. Secretary Bowles also pledged not to implement RGGI or to continue participation in RGGI if federal legislation is enacted. Again, this important language is not in the regulations and I urge DEP to include the language. All of us recognize that C02 is a significant global problem. Massachusetts, one of only two states in the United States to see a reduction in C02 since 1990. That progress has come through strong regulations from DEP plus significant contributions from the electricity generation sector. However, this progress has not come without a cost. If the federal government passes its own C02 regulation, additional regulations in Massachusetts would be unwise.

I am also concerned about the significant financial investment made in Somerset by Dominion in establishing an ash recovery program. This program was explained to us at the meeting attended by

Senator Menard and Ian Bowles. The ash recovery facility at Brayton Point will offset significant C02 emissions that come fiom the manufacturing of cement. The States regulations must specifically include this ash recovery program as a RGGI-eligible offset. I know that it is the Administration's intention to encourage offset programs within our own state. These in state programs involve investment and the creation of jobs.

Lastly, the DOER draft includes language which allows the proceeds of the sale of RGGI allowances to be deposited into a separate DOER trust account. Massachusetts general laws require that the amounts spent out of the trust are subject to appropriation. Because this amount is possibly in the hundreds of millions of dollars, and because the draft language violates the state law I urge you to amend the legislation to make it consistent with the statutory language. Thank you for the opportunity to comment on the regulations and I look forward to working with the Administration to produce a final set of regulations which meet the needs of all of the citizens of the Commonwealth while at the same time reducing C02 in a cost effective manner.

PATRICIA A. HADDAD
State Representative

H2Diesel Holdings, Inc.

Comments of H2Diesel Holdings, Inc.
Proposed Regulations and Amendments to 310 CMR 7.70 (CO_2)
Carbon Dioxide Budget Trading Program

H2Diesel Holdings, Inc., a developer and manufacturer of biofuels, appreciates the opportunity to comment on the Massachusetts Department of Environmental Protection's (Department) proposed regulations implementing the Carbon Dioxide (CO_2) Budget Trading Program. H2Diesel directs these comments at ambiguities in the definition of "eligible biomass" and at those provisions awarding offset allowances for entities that switch to less carbon-intensive fuels.

I. Description of H2Diesel

Formed last year, H2Diesel has the proprietary rights to a new technology for the manufacture of a biofuel from renewable vegetable oils and animal fats. H2Diesel's plans call for the joint development of its first commercial scale production plant at Twin Rivers Technologies in Quincy, MA in 2008. From that plant, H2Diesel hopes to provide to both power generation facilities and commercial and residential boilers in and around Massachusetts a new renewable fuel that can substantially reduce their greenhouse gas emissions. This rulemaking is vitally important to the success of that first production facility.

Traditional biofuels are typically produced using energy-intensive processes. H2Diesel avoids the energy losses in the base fuel inputs by using a simple blending process instead. H2Diesel's new manufacturing process produces several benefits over traditional biofuels. In particular, H2Diesel's biofuel: 1) requires less energy input and hence lowers the net CO_2 emissions per unit of energy ; and 2) does not require blending with traditional fuels derived from petroleum.

II. Comment on the Proposed Regulations

The willingness of a small business like H2Diesel to invest in the research and development of climate-friendly technologies turns on regulatory initiatives – such as the RGGI program – that level the marketplace by imposing a cost on the emission of CO_2 and a corresponding benefit on measures that offset additional CO_2 emissions. For companies such as H2Diesel to feel confident in making these investments, however, they must be certain about how regulators will treat the technology in which they are investing. Doubt as to whether and to what extent the use of a new technology will be eligible for offset allowances introduces risk into the equation, posing a significant barrier to investment.

For this reason, H2Diesel makes three requests:

1) The Department should resolve ambiguities in the definition of "eligible biomass" in way that furthers the proposed regulations' overriding purpose of reducing CO_2 emissions.

2) The Department should clarify the meaning of the phrase "renewable fuel" in proposed regulation 310 CMR 7.70(10)(e)4.a.i(vii) and do so in broad fashion that leaves room for emergent CO_2 reducing technologies employing processes and feedstocks not currently in common use.

3) The Department should set forth a methodology by which a party that has reduced its CO_2 emissions by switching to a renewable fuel can claim offset allowances for those emissions reductions.

a. Interpret "eligible biomass" in way that furthers the purpose of the CO_2 Budget Trading Program

H2Diesel plans to use a wide range of natural renewable feedstocks for the production of its biofuel. The proposed regulations, however, provide little guidance in predicting which of these feedstocks will qualify as "eligible biomass." 310 CMR 7.70(1)(b). Specifically, the definition of eligible biomass includes fuels derived from "dedicated energy crops," a term that neither is defined in the proposed regulations nor possesses a commonly agreed upon meaning.

In deciding how to resolve this ambiguous phrase, the Department should look to the overriding purpose of the CO_2 Budget Trading Program: reducing CO_2 emissions. With that purpose in mind, an agricultural crop should qualify as an energy crop so long it has been converted into a liquid fuel that, on a life-cycle basis, produces substantially fewer CO_2 emissions than the fossil fuel it replaces. Such an approach would be entirely consistent with the definition of eligible biomass used by Massachusetts for purposes of its Renewable Portfolio Standard, which includes biodiesel, a product that uses the very same range of feedstocks that H2Diesel will use. *See* 225 CMR 14.02.

For the Department to focus its time and attention instead on the abstract – and necessarily arbitrary – question whether energy production is the crop's exclusive purpose would be to take its eye off the ball. Such an approach could well end up including inefficient crops and excluding efficient ones. Moreover, using an exclusive-purpose test would stifle innovation by restricting, from the outset, the range of feedstocks and processes with which companies would be willing to experiment.

b. Define the term "renewable fuels" broadly

The proposed regulations award CO_2 offset allowances for "avoidance of CO_2 emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency." 310 CMR 7.7(10)(e)4 (proposed). One of the measures eligible for such offset allowances is: "Fuel switching to a less carbon-intensive fuel for use in combustion systems, including the use of liquid or gaseous renewable fuels, provided that conversions to electricity are not eligible." 310 CMR 7.7(10)(e)4.a.i(vii) (proposed). This provision quite clearly endorses awarding offset allowances to, for example, commercial building owners who replace the distillate fuel oil in their boilers with renewable fuels. Awarding offset allowances in such cases makes perfect sense: the CO_2 reductions resulting from fuel-switching are real, additional, verifiable, enforceable, and permanent. Moreover, there is no difference between a ton of CO_2 saved by fuel switching and a ton saved by other means, such as improvements to the efficiency of combustion equipment. Thus, for the sake of technological neutrality, fuel-switching should be treated the same way under the CO_2 Budget Trading System as other improvements that reduce CO_2 emissions generated in the process of heating buildings.

Yet, despite the proposed text of 310 CMR 7.7(10)(e)4.a and the sound reasons underlying it, the remainder of the proposed regulations do not clearly specify how one can receive offset allowances for switching to renewable fuels. To begin with, the proposed regulations nowhere define "renewable fuels." H2Diesel proposes that the Department add to the regulations a broad definition for "renewable fuels" that leaves room for emergent CO_2 reducing technologies employing processes and feedstocks not currently in common use. H2Diesel proposes the following definition based on the renewable portfolio standard regulations from the state of New Jersey, N.J. ADMIN. CODE § 14:8-2.2:

> "Renewable fuel" means a fuel that is naturally regenerated over a short time scale and is either derived from the sun (such as thermal, photochemical or photoelectric), or from other natural sources such as wind, hydropower, geothermal, tidal energy, photosynthetic energy stored in biomass, other products and byproducts from plants, or animal byproducts. This term does not include a fossil fuel, a waste product from a fossil source, or a waste product from an inorganic source.

H2Diesel would like to stress that, whatever definition of "renewable fuels" the Department selects, the Department should take care not to exclude inadvertently any fuels, such as H2Diesel's, that yield substantial net CO_2 reductions. The federal definition of "renewable fuels" – as an example of what not to do – was designed with motor vehicles in mind and as a result relies in part on the ASTM International standard definition of biodiesel (ASTM D 6751). ASTM D 6751 contains specifications tailored to the needs of one specific product and has no bearing on carbon-intensity or any other concern relevant to the design of climate change policy.

b. Create a methodology that awards offset allowances to parties who reduce CO_2 emissions by switching to renewable fuels

The proposed regulations also fail to articulate a methodology that would allow building owners to claim offset allowances for switching to less carbon-intensive fuels. Indeed, although the proposed rule expressly recognizes switching to less carbon-intensive, renewable fuels as an appropriate source of offsets, the provision entitled "Calculating emissions reductions," 310 CMR 7.70(10)(e)4.d, appears to have been designed solely with energy efficiency measures in mind. That section states that annual emissions reductions are the product of the energy savings resulting from the energy conservation measure, the emissions factor of the fuel used, and the oxidation factor of the fuel used. According to this formula, therefore, if the use of a renewable fuel does not result in energy savings, there will be no offset awarded – *even if the fuel switch results in a substantial reduction of CO_2 emissions*. This design makes little sense as a matter of policy and is difficult to reconcile with the plain terms of the proposed regulation, 310 CMR 7.70(10)(e)4.a.i.(vii).

H2Diesel urges the Department to modify this formula or promulgate a new formula that awards offset allowances for switching to less carbon-intensive fuels. Consistent with the methodology currently in place, the Department could calculate the emissions reductions by subtracting from the emissions baseline (as calculated in 310 CMR 7.70(10)(e)4.c) the emissions generated using the new fuel; that is, the product of the adjusted post-installation energy use by fuel type, the emissions factor of the new fuel, and the oxidation factor of the new fuel.

III. Conclusion

H2Diesel is developing a biofuel technology that it believes can produce deeper CO_2 reductions at lower prices than traditional biofuels. To justify its continuing investment, H2Diesel seeks clear rules enabling those who use their product to receive benefits commensurate with the CO_2 emissions they have reduced.

Thank you for the opportunity to comment on this important issue.

Respectfully submitted

Connie Lausten
V.P. Regulatory and Legislative Affairs
H2Diesel Holdings, Inc.

ICLEI

September 24, 2007

Nicholas Bianco
MassDEP
One Winter Street, 6th Floor
Boston, MA 02108

RE: Comments on MA RGGI Rules

Mr. Bianco:

On behalf of ICLEI-Local Governments for Sustainability and our 35 local government members in the Commonwealth of Massachusetts, I commend the state for taking a leadership role in addressing global climate change through participation in the Regional Greenhouse Gas Initiative.

Massachusetts has developed a strong draft rule and we appreciate the opportunity to provide input to you on this rule. Firstly, we highly encourage the Commonwealth to remove the cap from the retirement of allowances through voluntary purchases of renewable energy. Many of our member communities have actively sought opportunities to purchase or install clean renewable energy and would benefit greatly from the retiring of all of these allowances. Clean energy is our future and a limit should not be placed here.

Additionally, our local government members have been making tremendous strides to reduce energy and emissions from their own operations and encouraging their community members to do the same. We would like to see a streamlined system to approve qualified municipal offset programs as part of this rule.

Thank you for your time.

Best,

Kim Lundgren
Regional Director
ICLEI USA

International Paper Products Corp.

Mr. Nicholas M. Bianco
MassDEP/BWP
One Winter St., 6th Floor
Boston, MA 02108

September 20, 2007

RE: **CLEARLY INCLUDING BUD APPROVED BIOMASS FUELS IN THE BUDGET TRADING PROGRAM**

Dear Mr. Bianco:
International Paper Products Corp. (IPP) of Westfield, MA welcomes this opportunity to comment on the proposed adoption of 310 CMR 7.70 "Massachusetts CO_2 Budget Trading Program". Our intention in providing these comments is to urge the MADEP and other stakeholders to encourage development of mechanisms which will allow fossil fuel fired units to obtain credit for meeting CO_2 Compliance Obligations when they use manufactured biomass fuels derived from non-recyclable paper, fiber and wood feedstock (such as IPP's Enviro-Fuelcubes®). The proposed definition of "Eligible Biomass" can and should be taken to mean inclusion of biomass containing fuels manufactured in accordance with a MADEP issued Beneficial Use Determination (BUD) as provided for in 310 CMR 19.060. This action creates an opportunity to act now to reduce the long-term costs of addressing climate change.

BACKGROUND ON IPP

- IPP manufactures Enviro-Fuelcubes® from renewable/recurring, non-recyclable feedstock materials including pre-consumer, presorted, paper and wood products (not resulting from Construction and Demolition activities). This fuel is predominantly biomass/cellulose in nature (as sugar, carbohydrates, and water/ethanol extractive carbon compounds). The fuel manufacturing process is controlled under an MADEP issued BUD. IPP's Westfield, MA plant is a "first of its kind" manufacturing facility. IPP's plans call for siting up to 10 high volume manufacturing plants in Massachusetts alone. These 10 plants would manufacture approximately 5,000 tons of fuel per day.
- IPP acquires these feedstock materials from controlled, managed sources throughout Massachusetts. IPP then diverts a significant portion of these materials to re-use in outlets throughout North America and Asia. IPP manufactures and sells Enviro-Fuelcubes® made from the remaining residual material. As a result, customers supplying IPP with feedstock, pay much less than the market cost of disposal. In 2006 and 2007, IPP customers saved an estimated $1,000,000.00 simply by pre-sorting suitable feedstock materials for use in IPP's recycling and fuel manufacturing operation.

- There are an estimated 5,000 tons per day of suitable feedstock that could ultimately be diverted to manufacture Enviro-Fuelcubes® in Massachusetts alone for use in fossil fuel fired units, such as those identified in 310 CRM 7.29 "Emissions Standards for Power Plants".
- Enviro-Fuelcubes® have been co-fired with wood, coal, and oil for the purpose of power generation. The energy value is nominally 10,000 BTU/lb. The fuel is a simple and clean burning energy source whose environmental co-benefits include net reductions for SOx, NOx, and Mercury, solid waste and landfill gas emissions avoidance.
- IPP is the sole manufacturer of the "Dedensification and Delivery Unit" (DDU) which has proven successful in co-fire applications. The DDU allows Enviro-Fuelcubes® and other solid biomass fuels to be introduced into combustion units efficiently and without significantly impacting combustion or emissions characteristics in permitted units.

BASIS FOR INCLUSION IN ELIGIBLE BIOMASS DEFINITION

The proposed definition of "Eligible biomass" should be broadened to include those fuels that are manufactured in accordance with 310 CMR 19.060 "Beneficial Use of Solid Waste" and which contain cellulose. With a Beneficial Use Determination (BUD), this fuel is **NOT SOLID WASTE** and where methods exist to clearly demonstrate the biomass (cellulosic) content of these fuels, then the definition's scope of "… other clean organic wastes not mixed with other solid wastes ..." is satisfied.

There is no doubt that "Eligible biomass" as proposed can and should include cellulosic materials such as non-recyclable paper in addition to the materials currently defined as "sustainably harvested woody and herbaceous fuel sources that are available on a renewable or recurring basis …" The term "biomass" is defined broadly as a matter of federal law. See Section 45 of the Internal Revenue Code (biomass defined as "any solid, non-hazardous cellulosic waste material which is segregated from other waste materials" ***not*** including "paper which is commonly recycled."); See 42 USC Section 8802 (biomass defined as "any organic matter which is available on a renewable basis, including agricultural crops and agricultural wastes and residues, wood and wood wastes and residues, animal wastes, municipal wastes, and aquatic plants."). The United States Department of Energy also regards biomass feedstock as "all plant or plant-derived material."

Further safeguarding of the environment is afforded through current standards such as 310 CMR 7.29 "Emission Standard for Power Plants" and the Best Available Control Technology (BACT) Guidance for Biomass Projects. Clearly, fuels won't be used if the permitted facility cannot meet their emissions standards.

OTHER JUSTIFICATIONS

This proposal meets the scope and intent specified in the **"Reasons for Massachusetts to Implement the CO_2 Budget Trading Program"** listed in the July 2007 *Background Information and Technical Support Document for Proposed Adoption of: 310 CMR 7.70 "Massachusetts CO_2 Budget Training Program"* and included amendments.

- **Reduce the long-term costs of addressing climate change** – This proposal provides a powerful incentive for existing fossil-fuel fired facilities to co-fire with a biomass fuel that is made in Massachusetts and does not require environmentally disruptive extraction processes occurring in other parts of the country or world. Most importantly, the technology already exists to manufacture this fuel and efficiently and cleanly deliver it to combustion units.
- **Capture environmental co-benefits** – Fuels such as Enviro-Fuelcubes® are manufactured from clean feedstock and do not contribute to SOx, NOx, or Mercury emissions problems. Because the feedstock itself is manufactured into a fuel, a significant new source of landfill gas generation is avoided – an especially critical concern as landfill gas is at least 20 times more potent than CO_2. IPP has also created a powerful new culture among the region's businesses by incentivizing them to look more closely at their operations and divert clean, high-energy materials from their waste stream – in effect creating a "third bin" system. This proposal also helps address the current challenges Massachusetts faces as a "net exporter" of solid wastes. Every ton of materials suitable for a fuel feedstock that is landfilled or otherwise exported represents a lost opportunity to meet the goals of this proposed rule.
- **Drive new technology** – IPP has just received a patent for its new, innovative, high volume manufacturing system. Patents are pending for the DDU fuel firing systems and related components. Additionally, the thermodynamic and physical properties of IPP's fuel are compatible with the advanced biomass conversion technologies currently in consideration for deployment in the Commonwealth and the Northeast.
- **Promote expanded energy efficiency** – Making use of indigenous, non-recyclable biomass containing feedstock is an absolutely appropriate means of off-setting or avoiding the energy costs associated with importing extractive, non-renewable energy resources. Current in-state landfilling or out-of-state exporting adds to the negative energy efficiency

cost to our economy. This is also a perfect complement to the energy expenditures associated with the sustainable harvesting of traditional, renewable biomass fuels currently deemed eligible by this proposed rule.

- **Stimulate economic development** – The Background Information and Technical Support Document states "Massachusetts is already a leader in clean energy technology and is home to 556 companies, with 14,400 jobs, in energy efficiency, renewable energy, and clean energy consulting." – an average of 26 jobs per company. IPP alone employs over 20 persons in its Westfield location (currently at 30% capacity) and has created a net 10 additional jobs among our support vendors. IPP is entirely self-funded and receives no renewable energy/green technology subsidies, grants, or set asides from public or semi-public sources. This alone is significant among renewable energy businesses. Further, the significant cost savings passed on to our 50 suppliers, is critical to keeping them competitive in the Northeast economy. IPP's growth plans call for operation of 10 facilities statewide and a corresponding job creation estimated at 500 people. There can be no doubt that diverting suitable, clean, non-recyclable materials for use in manufactured fuel and recycling is a net benefit to job creation and opportunity in the Commonwealth's industrial communities.

In conclusion, it is IPP's position that the MADEP and the stakeholders of this process need to consider including fuels such as Enviro-Fuelcubes® in the definition of "Eligible biomass". The manufacturing, fuel firing and emissions control technology currently exists and is commercially feasible to use this fuel for power generation throughout the Northeast. The environmental co-benefits of capturing this clean, renewable, sustainable energy supply are easily quantified. The decision-making process and regulatory mechanisms can and must reflect and embrace businesses that are meeting stated policy goals today.

Thank you for the opportunity to comment. We look forward to further participation in this process.

Sincerely,

Mark A. Dupuis, President & CEO
International Paper Products Corporation

ISO New England

September 24, 2007

Mr. Nicholas M. Bianco
Department of Environmental Protection
One Winter Street – 6th Floor
Boston, MA 02108

Mr. Robert Sydney
Division of Energy Resources
100 Cambridge Street
Suite 1020
Boston, MA 02114

RE: Proposed Regulations at 310 CMR 7.70 and 225 CMR 13.00

To Whom It May Concern:

Thank you for the opportunity to submit these comments on the Draft Regulations proposed by the Department of Environmental Protection and the Draft Auction Rules proposed by the Division of Energy Resources, both of which will implement the Regional Greenhouse Gas Initiative ("RGGI") Model Rules. These comments are being submitted on behalf of the ISO New England, Inc. ("ISO-NE").

ISO-NE is an independent, not-for-profit corporation serving as the Regional Transmission Organization ("RTO") for most of Maine, Connecticut, Massachusetts, New Hampshire, Rhode Island and Vermont. As the RTO for the New England Control Area, the objectives of ISO-NE are to assure the reliability of the electric supply for the New England area, to create an open and competitive market for energy, capacity and other related aspects of the electric market, and provide market rules to ensure the goals of the RTO are met. ISO-NE is involved in planning, central dispatching, and coordinating maintenance of electric supply resources and transmission facilities. ISO-NE also operates bidding markets for wholesale electricity, pursuant to rules on file with the Federal Energy Regulatory Commission, whereby ISO-NE "dispatches" generating units based on their bids, except where transmission constraints or other national or regional reliability considerations dictate otherwise.

As the entity ultimately responsible for reliability of the region's electric supply, our concern is with possible unintended consequences, and ensuring that market distortions do not develop which could adversely impact the reliability of the electric delivery system or unnecessarily increase electric supply prices. Reducing carbon and ensuring reliability of the region's electric supply are each important goals, and our job and concern is that we achieve reductions in carbon emissions while maintaining a reliable electric grid and an efficient electric market.

Market Design and Monitoring Concerns

One of the ISO-NE's functions is to monitor the wholesale electric market. To accomplish this, the ISO's market monitor reviews resource offers for supplying electricity, examines the fundamentals affecting prices bid into the system, and attempts to detect improprieties in bidding. The cost of RGGI allowances, and the cost of future compliance with the RGGI program, will be factored into generators' electric prices, and will generally increase the bid price for electricity. The ISO will have to review its market monitoring rules to assure that they treat the cost of carbon allowances appropriately. This treatment may be complex because the compliance period for allowances is three years long and purchasing allowances after the fact is permitted. Consequently, rules regarding the appropriate allowance costs to include in generator offers will need to be developed.

This drafting of rules will be made easier if a transparent and efficient allowance market develops quickly. If this occurs and the value of allowances is easily determined and transparent, then the monitoring function should not be adversely affected. This will benefit the region by enabling generators to include these costs in their offer in a consistent, easy to understand manner which will keep prices as low as possible. It will be critical that public price signals both from the auctions and the secondary market be made available to determine impacts on bids in the electric energy market. A liquid auction and secondary market with transparent pricing will help ensure the integrity of the energy delivery system in New England. As we note in Section B, a regional auction is most likely to create an efficient market for allowances.

As RGGI evolves, we will review the RGGI rules and the wholesale electric market rules and endeavor to identify areas in which changing the wholesale rules to better accommodate RGGI is appropriate.

Auction Regulations

The DOER's auction regulations provide that if a regional auction process is created, Massachusetts can decide to participate in lieu of running a separate Massachusetts only auction.

Based on the fact that most of the participating states appear to have endorsed the auctioning of 100% of the allowances, a regional auction of all allowances is the most efficient method to create a transparent and properly functioning auction market. We believe that such an auction should be held before the beginning of the first compliance period; however, the schedule should permit sufficient time to design, test, implement and train participants in order to ensure that the market functions as anticipated. The early fall of 2008 would appear to be an appropriate target, allowing sufficient time to develop a regional system, while still providing proper signals in a timely manner. A single, regional auction will provide both price certainty and maximum market liquidity for the single region-wide product – RGGI allowances. In any auction, larger markets of a single product will produce more accurate prices with lower transaction costs than multiple smaller auctions, and the RGGI auction will be no exception. Finally, given the goal of creating uniform allowances that are tradable across the region, a single regional auction will eliminate concerns about whether RGGI allowances from different states are truly interchangeable.

While there may be some advantages to getting some limited auction of a single state's allowances up and running quickly to provide needed price signals and to "ease" participants into this market, we believe that there are significant risks in such a single state auction. The risks could arise from either over or under participation in the auction. The demand for allowances could be overwhelming in a single state auction if a regional auction has not yet developed. Since most generators in other participating states know that they will be obligated to purchase allowances, they may decide to participate, even though the number of allowances being auctioned is only a fraction of the total. If this occurs, having entities from 10 or more states vying to purchase allowances when only a small fraction of the regional allowances are available, could distort the price signals and disrupt the market. Conversely, auction participants could take a different view and decide that state by state auctions are too uncertain and take the tact of waiting for a regional auction, resulting in little demand and a distorted price signal.

Participating in an auction of this sort will likely require some degree of sophistication. A successful market will require that participants be comfortable that the auction technology works, and that they understand how to enter bids and obtain allowances while putting significant sums at risk. We would be concerned if one or more single state auctions develop, and then a regional market is introduced at a later time which most states join. If there are differences between the auction technologies, participants are likely to be confused, and the market disrupted. Participants need to be confident that they understand the system, and that the system works as expected. Having one system at the start and another system later on will create confusion.

The regulations allow a "reserve price" to be set. The reserve price should be set at a low level, and is intended to address insufficient competition or inadequate demand in a particular auction. It mitigates demand-side market power and stabilizes the clearing price in unusual situations. A reserve price should be designed to allow the auction to function more efficiently. It should not be used as a way to increase auction revenues as this may result in inefficient prices for carbon reduction and unnecessarily raise electricity prices to all consumers.

The final auction design should also take into account the needs of smaller bidders. Even if the auction is conducted in a single day with just a handful of rounds, a small bidder may prefer to submit a single demand curve to be used throughout the auction, rather than participate explicitly in each round. This is handled as a *proxy bid* and the system developed should allow such bids. The bidder has the option of simply entering its demands at the beginning of the auction, just as in the uniform-price auction, or the bidder may submit bids iteratively as the auction progresses. Indeed, with proxy bids allowed, the ascending clock auction should dominate the uniform-price auction for bidders. The bidders can treat the auction as a uniform-price auction or they can take advantage of price discovery if they find that valuable.

Offsets

The RGGI rules allow use of a small amount of offsets which are designed to provide flexibility to the system, and act as a "safety valve" in the event of sustained high prices for allowances. While the initial list of allowed offset projects is very limited, and while we understand that it is likely that the participating states will take a "wait and see" attitude toward permitting new categories of offsets until it can be determined that the entire RGGI scheme appears to be working as anticipated, we urge the states to quickly move to consider additional offset categories once RGGI is underway – both from the standpoint that offset projects represent real reductions in carbon emissions, and in order to create further liquidity in the market which we feel will be essential to its proper functioning. The rules for offset projects need to be as clear and streamlined as possible. Developers of offset projects will have enough hurdles to financing given the likely variability and uncertainty in RGGI allowance prices during the first three years. Especially if the number of offset projects proposed is significantly less than the 3.3% of emissions that is allowed, we strongly encourage Massachusetts and the other RGGI states to permit further categories of offset projects.

In summary, the Regional Greenhouse Gas Initiative and the rules proposed by the DEP and the DOER are a significant first step in controlling carbon emissions. These rules could have a significant effect on the power supply in New England. It is acknowledged that electric prices will increase as a result of RGGI. It is possible that this program will affect whether certain generation facilities continue to be viable in the future. As the entity that is required to ensure that there are adequate power supplies and efficient electric markets, we offer these comments to assist in ensuring both the RGGI and ISO goals are achieved in an effective manner.

We look forward to continuing to work with the agencies in the region which are tasked with implementing the RGGI program.

Respectfully submitted,

ISO NEW ENGLAND, INC.

/s/

Raymond Hepper
Vice President & Assistant General Counsel

Respectfully submitted,

BROWN RUDNICK BERLACK ISRAELS LLP

/s/

John W. Wadsworth

John D. Keenan, Massachusetts State Representative

JOHN D. KEENAN
REPRESENTATIVE
7th ESSEX DISTRICT
SALEM

September 19,2007

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Mr. Nicholas M. Bianco
Massachusetts Department of Environmental Protection
Bureau of Waste Prevention
One Winter Street
Boston. MA 021 14

RE: DOER C02 Budget Trading Program Auction Regulation, 225 CMR 13.00 and MA RGGI Implementation Rules, 310 CMR 7.70

Dear Mr. Bianco:

I presently serve on the House Energy Committee. I am in my second term representing the 7th Essex District in the Massachusetts Legislature and I previously served as legal counsel to the City of Salem for eight years dealing with issues related to Salem Harbor Station. In many ways, Salem has been ground zero when it comes to energy policy - balancing many factors at the same time. People in my district have certain expectations when it comes to electricity:

First, they want reliable electricity - they expect the lights to go on when they go home after a hard days work and flip on that light switch on at night.

Second, they expect to pay a reasonable price fol. that electricity.

These expectations of my constituents are closely linked to the proposed sets of Massachusetts Regional Greenhouse Gas (RGGI) regulations. RGGI is a non-binding agreement signed by ten slates which seeks to achieve a 10% reduction in C02 from the electric sector by 2018, by implementing what's known as a "cap-and-trade" system. The 'RGGI Model Rule' was developed in hopes that states would then use this as a "model" for developing their own state-specific requirements to operate under this cap-and trade system. However, these proposed Massachusetts RGGI regulations have no policy approaches, which address the heart of the reliability and cost issues that are so important to my constituents. I support the concept of C02 emissions policies and strongly support a national program. However, whatever we do here in Massachusetts must be done properly. We cannot put our state at an economic disadvantage for only marginal environmental improvements. These regulations need to be reviewed carefully with an eye not only on the environment but also on the economy. Massachusetts and the 10 state RGGI region, will not make a discernable change in the long-term global level of C02 in the atmosphere. China alone has

been building two new coal facilities a week! Only a national, multisector program will. And Massachusetts electric ratepayers should not have to shoulder a burden of climate change that the rest of the country is not also carrying. In fact, the whole impetus behind RGGI was to spur national action on Climate Change and it has!

Massachusetts must make sure that its consumers are protected from the unknown reliability and cost impacts from RGGI by ensuring that there are appropriate policy measures in place, the dollars raised by RGGI's implementation are spent with legislative oversight and that the governance of the RGGI program is transparent, with adequate representation from Massachusetts. We have seen several examples over the last year of Massachusetts businesses closing or relocating, primarily due to high energy costs in our state. This has happened even in the absence of the additional financial impacts from RGGI. What will happen to Massachusetts electric rates is simply unknown since, as proposed, the Massachusetts version of RGGI does not contain price caps. These regulations do not include language which allows their suspension if and when C02 allowance prices and then electric rates are spiraling out of control.

Statutes and regulations in this state all but prohibit the siting of additional coal or oil facilities and in fact in the last 25 years none have been sited here, but rather we have sited high cost, lower emitting natural gas power plants. As a result, we in Massachusetts have already faced the extremely high prices that go along with this environmentally sensitive fleet. With the high cost of energy, we have seen an exodus of energy dependent businesses. We must be sensitive about adding additional electricity costs to those businesses. Where once our state proudly promoted the slogan of "Make it in Massachusetts" we find now that our products are made in Malaysia, made in Madagascar, or made in Mainland China.

Those same products reach the world market, yet they are manufactured with substantially lower environmental regulations than we have here in Massachusetts. So while the jobs and the capital investments are exported, the environment is denigrated by additional NOx, SOX, mercury and *C02.* These regulations have the potential of not only increasing the cost of electricity to Massachusetts consumers, but also of harming the global environment. DEP and DOER must amend these regulations to insure that this does not happen.

Massachusetts must institute a policy mechanism that includes a price cap for the allowance auctions. This will provide an immediate price relief to both generators and consumers should allowance prices spike. This increase must be automatic and not subject to bureaucratic review or bureaucratic delay. After listening to all of the advocates say that the price of allowances will be between $2 and $4, I suggest a cap of not more than $5. When that price is reached, Massachusetts should immediately place into circulation sufficient allowances so that every generator in the Commonwealth has access to them at a price at or below $5. I also have a number of other concerns about these allowances. If an insufficient amount of allowances is available, then power plants cannot operate. If an insufficient amount of allowances is available, then those allowances will attract a premium price. Neither of these results are in the best interests of Massachusetts.

Reliability is a concern to me and my constituents. What happens if some power plants close as a result of RGGI? We all know that should some power plants not be able to absorb the financial impacts of RGGI, even with additional capacity payments, they might not be able to survive. If ISO-NE decides some of those plants are needed for reliability, are we now going to be in a situation where even more "reliability must run" contracts need to be put into place to ensure the lights stay on in Massachusetts?

The ratepayers will surely absorb the costs from these units, as they do with similar RMR contracts today. Additionally, the RMR contracts that are in place today, such as Berkshire Power and Pittsfield Generating, may be re-opened to adjust for additional RGGI costs to be added to the RMR contract adding additional cost to our citizens and businesses.

Another major issue with RGGI is leakage. Leakage occurs when lower price power, which does not have the cost burdens of RGGI is allowed to 'leak' into ISO-NE from an adjacent regional transmission organization. Leakage can also happen when power moves through New York into New England from

states adjacent to New York and New Jersey. So far, these proposed regulations seem to do nothing regarding leakage, other than to simply "monitor" the issue. As leakage occurs, the environmental benefits gained by RGGI are lost. Furthermore, Massachusetts consumers will pay a heavy price if their own native load generation is forced out of the market as MassDEP and DOER folks are "monitoring" what's going on. This is simply an unacceptable risk to reliability and fuel diversity in our region and to my constituents. There must be concrete policy mechanisms in place to address leakage before Massachusetts implements RGGI. Even the advocates acknowledge that leakage is a problem and urge DEP and DOER to take action. How could we possibly establish a huge new program with potentially large cost hikes in a necessity like electricity without this issue being fully resolved? EPA data from 2004 regarding carbon oxide emissions from coal fired plants indicate that the ten states that potentially will join RGGI combine for slightly more than 83 million tons of C02 from their coal fired power plants. Pennsylvania alone accounts 111.6 million tons and in Ohio an additional 121.5 million tons.

Because RGGI discourages the use of coal-fired power plants within the RGGI region, but no similar restraints are on facilities outside the region, it is inevitable that additional coal fired power will flow from those two states into the RGGI region. One way to address leakage is to have a national program to address climate change. Currently, there are no fewer than ten bills with cap-and-trade systems for greenhouse gases proposed in the 110th US Congress and Massachusetts' own Senator Kerry is sponsoring one of them. It would be prudent to see what happens in Washington before we put Massachusetts economy and electric system at risk. Given that we have our own regulation, 729 already in place, a year or two delay in RGGI will have no impact on the environment. Why would we implement RGGI knowing that a federal program is near at hand?

Next, let's turn to the governance of RGGI. It is not yet clear from those who created this process, how RGGI will interact with our own state legislature and our own state regulations. Will we as a sovereign state be giving up our authority to legislate? Will we as a sovereign state be hampered from using innovative green technology offsets which all of us support if the non-elective RGGI governing body does not approve of those offsets? It is also not clear how new offsets are approved. Is Massachusetts no longer able to define offsets or must they be approved by this non-elected regional body? Additionally, I do not support the notion of a regional auction. I do not want to have New Yorkers charging Massachusetts for administrative costs of this program, nor do I want them to tell Massachusetts what the rules of the auctions are. We operate in a different IS0 region then they do, have differing reliability interests and differing opinions on how these auctions should be conducted.

Therefore, I urge you to delete the provision that allows for Massachusetts to participate in a regional auction. DOER has proposed regulations governing the auction of allowances. The RGGI model rule suggests that 25% of the allowances be auctioned and 75% be awarded to the companies which require them in order to operate. DOER is proposing a 100% auction.

Additionally, DOER is allowing large commodity brokers and any approved entity to bid on the allowances. I have watched closely the emissions trading of NOx and SOX allowances and see that many of the transactions are made by Wall Street brokers and other financial institutions and not by the companies that actually need the allowances. Why don't we start the auction slowly as the RGGI model rule suggests at 25%. Over a period of time perhaps by adding five percent a year, the auction can be increased to the full 100%. If for any reason this auction is unsuccessful, either by creating an artificially high price or by not having sufficient allowances available for our state's power plants to operate, then there is no remedy. If, however, we start slowly, and make improvements to the process as we go along, we can assure a more reliable low cost energy system.

Given that these regulations allow the allowances to be held by Wall Street traders and brokers imagine the scenario on the hottest day of the year in 2009 when the New England IS0 orders all power plants to run yet a number of them do not have sufficient allowances. Their option is either not to run or pay

whatever price the market will bear for those allowances. These regulations seem to anticipate that generators will run first and purchase the allowances later. I suggest that DOER is making a significant leap of faith. What business could possibly sell its product not knowing the total cost of its production? Either the business will not sell its product until that cost is known or it will sell its product at an extremely high premium to assure that all costs are covered. These regulations do not take this reality into consideration. I can only assume that these financial entities are purchasing the allowances at a certain price only to turn around and sell them later at a higher price. This increased cost will be borne by the ultimate user of the electricity, the citizens and the businesses of Massachusetts. DOER should take another look at this system. Electricity is a necessity. It is a commodity unlike any other. Every citizen of the Commonwealth IS dependent upon it being available at all times and at a reasonable cost. The Legislature will not stand by and allow the price of this necessity to be affected by commodity traders whose only interest is profit.

Finally, I have a significant concern regarding the auction proceeds. The proposed regulations say that the Secretary of Energy and the Environment has total control to determine where the allowance auctions roceeds will be spent. Under these regulations, that individuals may also unilaterally decide whether or not Massachusetts may participate in a regional New York state auction. With no disrespect to Secretary Ian Bowles, neither of these concepts is satisfactory. The Secretary of Energy and the Environmental Affairs must be required to provide the legislature with a budget for spending the auction proceeds, with no more than one half of one percent going to administrative costs. This budget must be subject to the approval of the legislature.

Sincerely yours,
-
John D. Keenan
7" Essex - Salem
State Representative

Loreti Group

Christopher P. Loreti
The Loreti Group
56 Adams Street
Arlington, MA 02474
781-641-0338
chris@loretigroup.com
September 24,2007

Nicholas Bianco
Massachusetts Department of Environmental Protection
One Winter Street, 6" Floor
Boston, MA 021 08
Sent via Email to: Nicholas.M.Bianco@state.ma.us
Dear Mr. Bianco:

Thank you for the opportunity to provide comments on the proposed Massachusetts DEP regulations on the Regional Greenhouse Gas Initiative. I am submitting the attached comments on behalf of The Loreti Group, an environmental consulting firm I founded to advise clients on climate change issues. For a description of my relevant experience and publications, please visit: www.loretigroup.com.

Most of the testimony DEP received on the proposed regulations at its recent hearing in Boston dealt with various policy issues in the regulations. I agree with the commenters' who stated that the regulations should provide for a wider use of emission offsets, both by establishing other categories of offset projects and by providing for greater flexibility in where these offset projects may be located. Instead of repeating testimony you have already received, however, I am focusing my comments on some of the technical details related to emissions estimation and measurement. I offer these in the spirit of improving the consistency, accuracy, and ease of use of the regulations.

The comments on the attached pages are listed in the order of the sections of the proposed regulations to which they refer. The listed page numbers are those of the regulations in the Word documents distributed by the DEP.

If you have any questions on these comments, please contact me by telephone at 781-641-0338 or by email at chris@loretigroup.com

Sincerely,
Christopher P. Loreti
Principal

Comments of The Loreti Group on Proposed Regulations 310 CMR 7.70

Page 12. Global Warming Potential (GWP)

The proposed regulations provide a definition of the GWP but do not specify in this definition which GWPs to use. GWPs are periodically revised by the Intergovernmental Panel on Climate Change (IPCC), and those &om the IPCC's Second Assessment Report are most commonly used. The proposed regulations use the 100-year GWPs from the IPCC Third Assessment Report for landfill methane capture and destruction and avoidance of methane emissions fiom manure management, for example. This creates an inconsistency in the GWPs used for different types of offset projects that may be allowed under the regulations. GWP values from the Second Assessment Report are used in the UNFCC Joint Implementation and Clean Development Mechanism programs which may be used under the RGGI program if the market price of emission allowances becomes high enough. This means that landfill methane and manure management projects in the RGGI states will use 23 for the methane GWP (see pages 57 and 74), while similar projects under the UNFCC (and others) will use 21 for the methane GWP.

A single set of GWPs should apply to all offsets allowed under the regulations. Since those from the Second Assessment Report are most commonly used, it is recommended that they be used in these regulations and that the definition of GWP make note of this.

Page 27. ERAS Equation

In the line following c(i), there appears to be a minus sign missing between "AEERBAS~~man~d' '" AEERERP" as the calculation should be based on the difference between these two parameters.

Page 36. Monitoring and Reporting; Requirements for Installation, Certification, and Data Accounting

The draft regulations exclude Equation G1 in 40 CFR Part 75 for determining C02 emissions. This equation calculates emissions based on the quantity and composition (carbon content) of the fuel consumed. Its exclusion is unclear since in many cases it will be the most accurate means of calculating emissions given that fuel quantities and compositions can be measured more accurately than flue gas flow rates and composition. The draft regulations do allow for emissions to be calculated based on measured heat input and COz emission factors expressed in terms of the higher heating value of various fuels. Because fuel composition can vary, however, such as for different sources of liquefied natural gas that may be imported into the state, the measurement of the actual composition of the fuel and fuel consumption is a more accurate way to calculate emissions.

Comments of The Loreti Group on Proposed Regulations 310 CMR 7.70

While many of the larger emission sources covered by the regulations will already have continuous emissions monitors on their stacks, and may not wish to use a fuel-based approach, this may not be the case for smaller sources. The draft regulations should be revised to allow sources to use Equation G1 in 40 CFR Part 75 for determining CO2 emissions provided the flow and composition measurements meet established quality criteria.

Page 44. Calculation of COz Emissions from Biomass

The calculation of C02 emissions in paragraphs 2 and 3 is made needlessly complex by including the heat content of the fuels in the calculations. There is no need to express COz emission factors in terms of heat content because the fuel is the only source of carbon in the COz emissions (unlike NO, emissions where the nitrogen may come from the fuel or from the air).

For each type of biomass, i, combusted, the C02 emissions are simply:

Each of the terms used above is as defined in the draft regulations (Fw is the mass of fuel input as it is used for solid fuels, not the volume of fuel input as it is used for gaseous fuels; it should have only one definition in the regulations.)

The equations for calculating C02 emissions from biomass should be revised to a form like that given above to eliminate the heating value term. If a different equation is desired for gaseous fuels, then the FIN term should be replaced with the gas density multiplied by its volume, with the stipulation that the volume measurement and density be made under the same conditions of temperature and pressure, as different definitions exist for standard conditions used to express gas volumes.

Bob Machaver

September 20, 2007

Mr. Nicholas Bianco
Massachusetts Department of Environmental Protection
1 Winter Street
Boston, MA 01208

Subject: **Comments on Proposed CO2 Cap and Budget Trading Rule**
310 CMR 7.70

Presented below are minor comments on the proposed MADEP CO2 Budget Rule (310 CMR 7.70).

I. General

1. Reporting CO2 Emissions by Non-Acid Rain CO2 Budget sources: there are a number of CO2 Budget units that are not Acid Rain sources. However I believe, all of these non-Acid Rain CO2 Budget units are in the NOx Allowance Program and therefore have monitoring systems certified under 40 CFR 75.

   While these Non-Acid Rain sources do not currently report CO2 emissions in their EDRs; their monitoring systems currently measure all the parameters (e.g. fuel flow, stack flow and/or CO2) necessary to determine CO2 emissions using 40 CFR 75 procedures. Therefore no hardware modifications should be required for upgrade of their monitoring systems to determine CO2 emissions; only the DAHS needs to be upgraded by incorporating formulas to calculate and report CO2 using already measured parameters.

   Consequently, the most reasonable and appropriate manner for such sources to provide CO2 emissions under the Massachusetts CO2 Budget Program would be: (a) to add the CO2 emission formulas into the DAHS (ands in some cases CO2 missing data procedures); and (b) then to report CO2 emissions in the same EDRs used to report quarterly NOx emissions under the NOx Allowance Program. It should relatively simple for DAHS vendors to modify the configuration of NOx Budget EDRs to add the RTs applicable to CO2, so that CO2 reporting is the same as for Acid Rain sources. In particular, Appendix D and full CEMS sources would report hourly CO2 emissions in RT 330 and Low Mass Emitter sources would report CO2 emissions in RT 360.

   It is further suggested that the RGGI states request, or pay, EPA CAMD to revise their EDR Checking software so that the EPA software can properly recognize and evaluate such CO2 EDR data for non-Acid Rain CO2 Budget sources, perhaps by adding a new Code in the Program Field of RT 505.

   Such an approach would be cost/effective for both the sources and the states, and would help to make the transition to RGGI less confusing for non-Acid Rain sources that will be sufficiently challenged by having to cope with the CO2 Budget Program Auction process.

II. Emission Control Plan (310 CMR 7.70(3) – Non-Acid Rain Units

1. Detailed Monitoring Plan: The 310 CMR 7.70(3)(c)5 provisions require that non-Acid Rain units (i.e. units not subject to 40 CFR 72) submit a detailed Monitoring Plan.

   It is suggested that either in the rule or in associated guidance it be indicated that any detailed Monitoring Plan previously submitted and accepted under 40 CFR 75 for CAIR/NOx Budget only sources, will also be acceptable under 310 CMR 7.70, so long as the Monitoring Plan has been

modified/elaborated to describe any additional DAHS calculations [or hardware, if applicable] incorporated into the CEMS to determine CO2 emissions. As indicated in Comment 1 above, and in previous Comments, in almost all cases a NOx Budget/CAIR only source certified under 40 CFR 75 should be able to determine CO2 emissions without need for any CEMS hardware upgrades. To make a 40 CFR 75 certified CEMS capable of determining CO2 emissions should be only require the addition of one or two emission calculations, and, in some cases, new missing data procedures for CO2.

Further, this CO2 rule should explicitly indicate that any method allowed under 40 CFR 75 for the monitoring of CO2 emissions would automatically be allowed under 310 CMR 7.70 for use by non-Acid Rain sources.

2. Modification of the Monitoring Methodology: The 310 CMR 7.70(3)(c)4 provisions indicate that any modification to the monitoring methodology approved for Acid Rain units under 40 CFR 72-75 are automatically approved and incorporated into the Massachusetts CO2 Budget Program ECP.

   This provision should be extended to NOx Allowance/CAIR only sources. More specifically, this provision should indicate that any modification to the monitoring methodology used by a CO2 budget unit that conforms with 40 CFR 75 methods and procedures will be allowed (i.e. approved by MADEP and incorporated into the Massachusetts CO2 Budget Program ECP). There would seem to be no reason to make the process of modifying a monitoring methodology more onerous for non-Acid Rain as compared to Acid Rain sources. Under 310 CMR 7.70, all CO2 Budget units must be compliant with the 40 CFR 75 monitoring provisions.

III. Monitoring and Reporting (310 CMR 7.70(8)

1. Initial Reporting Date – New Units 310 CMR 7.70(8)(a)2 and 3: The Reporting deadlines discussed in 310 CMR 7.70(8)(a)2 and 3. do not appear to fully specify the initial emission reporting date for new CO2 budget units.

   The 310 CMR 7.70(8)(a)(3) provisions do indicate how emission data is to be reported if a CEMS has not completed certification testing within the timelines specified in 310 CMR 7.70(8)(a)2. However, for a new Unit that completes CEMS Certification before expiration of these timelines, it is unclear: (a) if reporting begins the hour immediately following the end of the applicable CEMS Certification deadline date (i.e. the earlier of 90 operating days or 180 calendar days after commencement of commercial operation); or (b) if reporting begins at the hour following completion of Certification testing (which would normally pre-date the CEMS Certification deadlines). Under 40 CFR 75, EDR reporting is initiated at the date of initial provisional CEMS Certification if it precedes the certification deadline date (see 40 CFR 75.64); however 310 CMR 7.70 appears to be silent on this issue.

2. Initial Certification Exemption (310 CMR 7.70(8)(b)1): This provision indicates that a monitoring system is exempt from initial certification requirements under 7.70(8) if it was previously certified under 40 CFR 75. As indicated previously in these comments: (a) the monitoring systems for non-Acid Rain, NOx Budget units have all previously been certified under 40 CFR 75 to satisfy 310 CMR 7.28 Program monitoring requirements; but (b) these systems do not currently determine or report CO2 emissions; however (c) upgrade of these NOx Budget only Part 75 monitoring systems for CO2 emission monitoring and reporting does not require any hardware modifications and only involves minor DAHS revisions. Consequently, non-Acid Rain NOx Budget units should qualify for the initial certification exemption under 310 CMR 7.70(8)(b)1, except for perhaps requiring a DAHS verification.

   It is requested that the language of this provision, then, be revised to explicitly indicate that this "Initial Certification" exemption extends to any unit: (a) that has been certified under 40 CFR 75; and (b) does not require hardware modifications to upgrade the system to perform CO2 monitoring and reporting.

3. Requirements for Re-Certification (310 CMR 7.70(8)(b)4.b.ii and iii): the requirements of 310 CMR 7.70(8)(b)4.b.ii and iii should only apply to CEMS (CO2/Flow) monitoring systems, not Appendix D monitoring systems. Appendix D monitoring systems determine CO2 emissions and heat input from fuel flow and fuel sampling, and therefore changes to the "flue gas handling system", "replacement of analyzers", "change in probe location" and "changes in the flow monitor polynomial" will not affect CO2 monitoring by these Appendix D systems under 310 CMR 7.70.

4. Certification Application Submittal: In practice, MADEP should ensure that for new [CO2 Budget] Units, all of which will all also be subject to the CAIR and Acid Rain Programs, the source will only be required to submit a single Certification Application, as the same monitoring system will be used for all three programs. To the extent feasible, MADEP should consolidate the Certification and Certification Application submittal process for these programs.

IV. Eligible Biomass

1. Expand Definition of Eligible Biomass: the definition of "Eligible Biomass" should be expanded to include any non-fossil fuel organic based fuel that is combusted at a facility that has been issued a 310 CMR 7.02 Air Plans Permit, including those that burn Construction and Debris (C&D) waste and Solid Waste facilities. Any facility permitted under 7:02 will have undergone extensive BACT and Modeling review to determine if impacts are acceptable, and will only be granted a permit if controls are BACT and impacts meet standards. C&D and MSW facilities in particular are likely to include extensive controls. For the DEP to indicate that such facilities are clean enough to operate, but not clean enough to be granted biomass status does not seem reasonable. It would seem analogous to having the Cape Wind project permitted, and then not granting it renewable energy generator status because of its impacts on wildlife or aesthetics; those issues were already resolved by the state in the permitting process and should be honored in the CO2 Budget Program.

2. Biodiesel Fuels: "Liquid Biofuels" are listed as materials that qualify as "Eligible Biomass; however there is no formula provided in 310 CMR 7.70(8)(g) to quantify the portion of the CO2 emissions from these fuels that are of biomass origin. A formula should be added to 7.70(8)(g) to quantify the CO2 emissions resulting from combustion of the "bio" portion of a liquid biofuel, so that these emission can be excluded from the CO2 reconciliation process (i.e. do not have to be offset by CO2 Allowances). It does not make sense to list biofuels as eligible biomass fuels, and then provide no means to determine the CO2 emissions attributable to the biomass fraction of these fuels.

3. Biomass Formulas: it appears that there are minor errors in the formulas for determining the amount of CO2 emissions attributable to combustion of solid and gaseous biomass fuels.
   - In 310 CMR 7.70(8)(g)2b, I believe the formula used to calculate B_{EF} for solid biomass fuels should be revised so that "HHV" is reported in units of "MMBtu/lb" not "Btu/lb" in order for the calculated HI to be determined in units of MMBtu
   - In 310 CMR 7.70(8)(g)2c, I believe the formula used to calculate of B_{EF} for gaseous biomass fuels should be revised so that: (a) "C" (carbon content in percent) is divided by 100 to make it a fractional value; and (b) the HHV of the gas is reported in units of "MMBtu/scf" not "Btu/scf" in order for the calculated HI to be determined in units of MMBtu

Thank you for the opportunity to provide these comments

Sincerely:

Bob Machaver

Massachusetts Bay Transportation Authority

September 24, 2007

Mr. Nicholas Bianco
Department of Environmental Protection
Bureau of Waste Prevention
One Winter Street
Boston, MA 02108

Mr. Robert Sydney
Division of Energy Resources
100 Cambridge Street
Suite 1020
Boston, MA 02114

RE: Comments on the Massachusetts Draft Regulations for the Regional Greenhouse Gas Initiative: 310 CMR 7.70 – CO2 Budget Trading Program; 310 CMR 7.00 Appendix B(7) – Emission Banking, Trading, and Averaging; and 225 CMR 13 – DOER CO2 Budget Trading Program Action Regulation.

Dear Messrs. Bianco and Sydney:

The MBTA appreciates the opportunity to provide comments on the proposed draft regulations for the Massachusetts Regional Greenhouse Gas Initiative. The MBTA is a strong supporter of the Regional Greenhouse Gas Initiative, which seeks to reduce carbon dioxide (CO2) emissions.

Background
The Massachusetts Bay Transportation Authority (MBTA) is a body politic, and a political subdivision of the Commonwealth, providing public transportation to one hundred seventy-five communities in Massachusetts. The MBTA is organized under and operated pursuant to M.G.L. c. 161 A. The MBTA operates an extensive electrical transit network that includes, trains, trolleys, buses, tunnels, and stations. In order to ensure safe reliable service the MBTA owns and operates the MBTA South Boston Power Facility located at 696 East First Street, South Boston, MA. The facility consists of two combustion turbines serving a generator provides greater than 25 MW of electrical power. The primary function of this facility is to ensure emergency power to the MBTA's transit system in emergency situations. 2

Comments

Allowances

The MBTA believes that the allowance allocation process needs to ensure there are adequate allowances provided to public and quasi-public authorities and agencies of the Commonwealth during the early years of the program. A set aside program will allow these authorities and agencies to participate fully and to support actively the transition to this significantly different generating environment. The MBTA also believes that a set aside program for public and quasi-public state agencies and authorities in the first 5 years will provide a buffer during a very sensitive transition period. The MBTA makes this recommendation to ensure that its power generating facility and those of other public and quasi-public authorities and agencies will be able to continue to operate as they serve a very important public function.

Purchase of Allowances

The MBTA would not be able to participate in a multi-state auction or a state run auction where allowances are sold whether by reserve price, sealed bid, or shot clock to the highest bidder, under its current procurement and contracting processes. The MBTA believes the regulations need to provide a mechanism for state agencies and authorities, such as itself, to obtain allowances outside of the auction process.

Moreover, the MBTA will need to plan and budget for the purchase of adequate allowances to support the operation of its power plant during the annual budgetary process. Under a statutorily-imposed Forward-Funding backdrop, the MBTA has an obligation to its riders and the Commonwealth to make fiscally responsible purchases. The expense to be incurred by the MBTA to participate in a multi-state or state run auction to purchase CO2 allowances necessary to operate its facility may not be fiscally responsible. The MBTA is recommending that the regulations allow for the establishment of a flexible mechanism for state agencies and authorities to obtain CO2 allowances.

Monitoring and Reporting Requirements

The monitoring requirements of the proposed regulations mandate each CO2 Budget Unit to install and certify monitoring systems to collect, record, quality-assure and report data necessary to quantify CO2 mass emissions from each generating unit. These monitoring provisions are based upon the monitoring provisions of the Federal Acid Rain Program. It must be pointed out that the MBTA is not subject to the monitoring provisions of the Federal Acid Rain Program.

The MBTA has an approved Emission Control Plan under the NOx Allowance Trading Program. Additionally, the MBTA is subject to the Clean Air Interstate Rule, which requires sources to report mass emissions of oxides of nitrogen on an annual basis. Although the draft regulations assume the physical equipment necessary to monitor emissions of oxides of nitrogen on an annual basis is also capable of monitoring for CO2 emissions, the MBTA believes it may be impossible to program its monitoring equipment with specific additional formulas relative to CO2 emissions. Furthermore, MBTA will need sufficient time to assess, and if possible modify, its current monitoring equipment to confirm it is compliant with the regulations. The MBTA is recommending that the regulations provide sufficient time and flexibility for facilities not subject to the Federal Acid Rain Program to come into compliance with the monitoring and reporting requirements.

In summary, the MBTA believes the final version of the regulations must ensure that: (1) public and quasi-public authorities and agencies of the Commonwealth are provided with sufficient CO2 allowances to ensure the continue operation of their facilities, (2) public and quasi-public authorities and agencies of the Commonwealth are provided with a fiscally responsible method for obtaining CO2 allowances and (3) public and quasi-public authorities and agencies of the Commonwealth are provided with sufficient time to comply with the monitoring and reporting requirements.

In closing, the MBTA appreciates the consideration given to its comments provided in this letter as the Commonwealth moves forward with the Regional Greenhouse Gas Initiative. If you have any questions or concerns with comment provided herein, please do not hesitate to contact me at 617-222-1592 or at jkearney@mbta.com.

Sincerely,
Janis O. Kearney
Director of Environmental Compliance

Massachusetts Department of Public Utilities

September 24, 2007

Nicholas Bianco
Massachusetts Department of Environmental Protection
One Winter Street, 6th Floor
Boston, MA 02108

Robert Sydney, Esq.
Division of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Dear Messrs. Bianco and Sydney:

The Massachusetts Department of Public Utilities ("DPU") is pleased to provide these comments on regulations implementing the Massachusetts Regional Greenhouse Gas Initiative program proposed by the Massachusetts Department of Environmental Protection and the Division of Energy Resources. DPU offers these comments in recognition of our electric industry oversight role and our involvement and expertise in the design and administration of wholesale electricity markets.

Please contact me with any questions at 617-305 3500.

Sincerely,

/s/

Paul J. Hibbard, Chairman

COMMENTS OF THE MASSACHUSETTS DEPARTMENT OF PUBLIC UTILITIES ON THE REGIONAL GREENHOUSE GAS INITIATIVE PROPOSED REGULATIONS

I. Introduction

The Massachusetts Department of Public Utilities ("DPU") appreciates the opportunity to provide these comments on the Regional Greenhouse Gas Initiative ("RGGI") regulations proposed by the Massachusetts Department of Environmental Protection ("DEP") and the Massachusetts Division of Energy Resources ("DOER").[13] DPU's responsibilities include oversight of the electric industry with the goal of ensuring safe and reliable power supply for Massachusetts businesses and residents at the lowest possible costs. DPU accomplishes this through regulation of the state's distribution companies and evaluation of the development, design and implementation of regional energy market rules and policies. DPU offers these comments on the proposed RGGI rules in recognition of our industry oversight role and our involvement and expertise in the design and administration of wholesale electricity markets.

[13] 310 C.M.R. 7.70, CO2 Budget Trading Program; 310 C.M.R. 7.29, modifications to Emission Standards for Power Plants; 310 C.M.R. 7.00 Appendix B(7), modifications to Emission Banking, Trading, and Averaging; and 225 C.M.R. 13.00, DOER CO2 Budget Trading Program Auction Regulation.

Given our agency's goals and responsibilities, DPU's comments mostly focus on power system economics, the potential impacts of RGGI on electricity prices and reliability for Massachusetts consumers, and implications of these factors for RGGI program administration and the use of auction proceeds. However, overlaying our comments is agreement with the conclusion reached by DEP and DOER that the Commonwealth must begin to address and prepare for meeting our growing demand for electricity services in ways that slow, stop and reverse the power system's contribution to growth in greenhouse gases. Addressing this now through participation in RGGI is an appropriate first step for Massachusetts, one that we believe is based on careful consideration of the complex set of technical, market, and economic factors involved, and that will ultimately help prepare our power system and transition our state to more effectively compete in the carbon-constrained economy of the future. DPU applauds DEP and DOER on their development of a set of comprehensive auction and emission compliance regulations that we believe strikes the right balance between achieving this vitally important goal of beginning to address the social, economic and environmental risks of climate change, while paying close attention through program design to the potential impact of the RGGI program on the electricity consumers of the Commonwealth.

In the comments that follow, we present our view on the potential impact of RGGI program administration as proposed by DEP and DOER on electricity price and reliability, and we address the proposed CO_2 allowance auction mechanism and use of auction proceeds. In short, we come to the following conclusions:

- **Electricity Prices –** The evolution of electricity prices in New England will be governed by a number of key factors including fuel prices, technological change, energy infrastructure development and costs, changes in federal and state energy policy, and deployment of distributed resources, energy efficiency, and demand response measures. RGGI program administration will influence and be affected by each of these factors, but the ultimate direction and magnitude of price impacts remains uncertain. There are key features of RGGI program design that are very important for mitigating potential price impacts, and for monitoring the influence of RGGI on power market dynamics over time. Ultimately, DPU finds that these program design features provide a degree of comfort with respect to the potential impact of RGGI on energy costs, and that in any event RGGI program impacts in regional electricity price formation will be overwhelmed by the changes in underlying fuel prices. Nonetheless, the program's impact on electricity prices should be monitored carefully as the state proceeds from design to implementation.

- **Auction Proceeds –** The single most important element of the RGGI program design is the commitment to auction allowances and to ***use the proceeds of allowance auctions to mitigate the potential impact of program administration and rising energy costs on electricity consumers***. The reinvestment of auction proceeds in demand response programs and energy efficiency measures and programs is the most cost effective and beneficial way to mitigate RGGI program impacts on electricity prices, and to minimize RGGI compliance costs. DPU believes that diversion of auction proceeds for any other purpose would severely compromise the integrity, logic and effectiveness of RGGI program administration.

- **Market Monitoring –** Experience with electricity and natural gas markets has revealed the value and importance – from the perspectives of consumer protection, market design and administration, and efficiency – of markets that are open, transparent, and monitored for effectiveness and manipulation. We recommend that a portion of the RGGI auction proceeds be dedicated to the purpose of effective monitoring of the RGGI allowance market, for example through the selection and funding of a qualified market monitor for the RGGI program.

- **Reliability –** We do not expect that RGGI will jeopardize reliability in the New England region; however, fuel diversity has been highlighted by the New England Independent System Operator ("ISO-NE") as one of the important factors in assessing long-term infrastructure decisions related to the New England power grid. The value of power system diversity further highlights the importance of directing auction proceeds in the manner proposed by DOER's auction regulations (i.e., support for renewable energy).

II. Consumer Energy Costs in New England, and the Use of RGGI Auction Proceeds

The development of the RGGI program comes at a time when businesses and residents of the Commonwealth – indeed, across most of the country – have experienced unprecedented increases in energy costs over less than a decade. For states in the Northeast, these cost increases come on top of what already were some of the highest energy costs in the country, primarily reflecting the fact that we rely so heavily on resources that are distant to our region, require significant transport, and are subject to a high degree of price volatility. Our region's supply conditions have meant that it is difficult for us to obtain or generate energy at prices matching those in other regions of the country that may have significant quantities of indigenous coal, hydro, and/or other resources.

This underlying energy supply condition means that we need to remain vigilant in understanding what the key drivers are of energy cost increases over time, seek opportunities to mitigate energy prices where possible, and find ways to help consumers better meet the energy costs they face. It is not enough to question what the potential cost impacts of RGGI may be on business and residential customers in Massachusetts; instead, we need to ask how these potential impacts compare to other key drivers of energy costs, how we can monitor RGGI program impacts, and whether RGGI program administration offers opportunities to mitigate the overall impact of energy cost increases on business and residential consumers within Massachusetts.

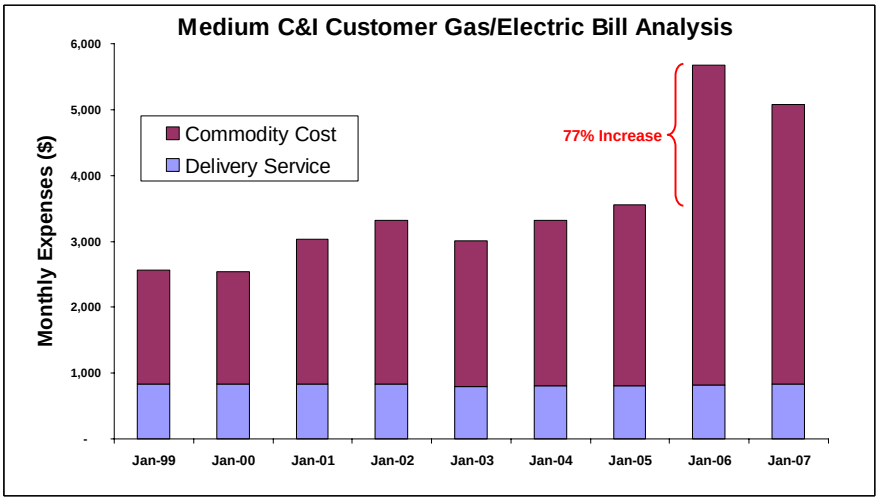
As noted in DEP's Technical Support Document, ICF modeled the potential impacts of RGGI on retail electricity costs, concluding that while electricity prices could increase on the order of a few percent, customer bills would decrease by at least several percent if auction proceeds were dedicated to customer energy efficiency improvements.[14] DPU recognizes that modeling of electricity price and bill impacts can only attempt to capture a likely range of future energy cost impacts, and that actual price changes over time will be driven by changes in underlying technical and economic drivers of supply and demand that cannot be precisely identified at this time. Nonetheless, we understand that the underlying inputs to ICF's model underwent significant review and debate, and believe that the results are likely to at least capture a rough order of magnitude of program impacts. Consequently, we turn to the question of how this magnitude of impacts compares to recent changes in energy costs, and what the results imply for specific aspects of program implementation.

Figure 1 presents a summary of the components of the total non-transportation cost of energy for a typical commercial customer in the Commonwealth, and how these costs have changed over time. Specifically, the Figure estimates total monthly costs – including electricity and natural gas expenses – for the month of January over the past eight years. Costs are broken down into two components: (1) delivery costs, which include expenses associated with regulated charges for transmission, distribution, billing/administration, and public policy programs (i.e., system benefit charges for energy efficiency and renewable energy); and (2) commodity costs, which includes commodity market charges associated with the purchase of electricity and natural gas. The estimate is based on rates for a typical medium-sized commercial business served by National Grid/Keyspan.[15]

[14] Massachusetts DEP, *Background Information and Technical Support Document for Proposed Adoption of 310 CMR 7.70*, July 2007 (hereafter DEP TSD), pp. 13-14.

[15] Specifically, the calculation assumes a medium C&I customer that consumes in January (1) 22,500 kWh and 75kW of electric service, provided by National Grid, and (2) 900 therms of natural gas, served by KeySpan. DPU analysis based on rates reported by the electric and gas companies.

Figure 1



The most interesting observation from this information is the fact that the changes in both electricity and natural gas costs are driven almost entirely by the cost of commodity, which over this period varied by on average **21%**, with a high of **77%** change from 2005 to 2006 (noted in Figure 1).[16] Furthermore, the magnitude of those changes dwarfs both the changes in charges for delivery service and the potential magnitude of impacts associated with administration of the RGGI program.

In light of these conditions, a key goal of public policy mechanisms such as RGGI should be to mitigate the effects of price volatility and price increases in the commodity gas and electric markets. In order to further this important goal, DEP and DOER should (1) auction most or all of the allowances apportioned to Massachusetts under RGGI, and (2) dedicate the proceeds of the auction to mitigating the potential impacts on business and residential consumers in the state of energy costs in general, and the RGGI program in particular. Indeed, ***the dedication of auction proceeds to benefit electricity consumers is the single most important principle of RGGI program design, and must be retained in the final rules***.

We recognize that there have been a number of proposals for dedicating auction proceeds for consumer benefit, including direct rebates to electricity consumers, rate reductions administered through local distribution companies, payments to municipalities for the administration of programs to reduce city/town energy costs, set asides to support market offerings of voluntary "green energy" programs, investment in distributed renewable generation, funding for research, and the funding of statewide energy efficiency programs. While we provide comments on some of these below, all such comments are subsidiary to the overriding principle that auction proceeds must be dedicated to mitigating energy cost impacts on residential and business consumers.

DPU makes the following additional observations/recommendations related to the use of auction proceeds and implementation:

- The reinvestment of auction proceeds in demand response programs and energy efficiency measures and programs is the most cost effective and beneficial way to mitigate RGGI program impacts on electricity prices, and to minimize RGGI compliance costs. This is because for every dollar spent on current energy efficiency programs in the state, consumers of the state receive $3.00 in energy bill reduction benefits.[17] Moreover, to the extent that cumulative (efficiency) or direct (demand response) programs that reduce the region's electric load during the highest-load, highest-priced hours result in an associated decrease in the marginal price of electricity in those

[16] While this discussion separates changes in natural gas and electricity commodity costs, we note that changes in *electricity* commodity costs can be largely attributed to changes in the price of *natural gas*, which is the underlying marginal fuel cost for electricity generation in New England for a majority of hours in the year.

[17] See Massachusetts Saving Electricity: A Summary of the Performance of Electric Efficiency Programs Funded by Ratepayers Between 2003 and 2005, Massachusetts Division of Energy Resources, April 2, 2007.

hours, all consumers benefit regardless of whether or not they are participants in the efficiency or demand response program. Given the key role that the price of underlying fuels has on electricity price formation in New England, and the dominating impact of commodity price volatility on consumers' energy costs, investment in energy efficiency and demand response programs that mitigate these impacts will maximize consumer benefits, and should be the primary target of RGGI auction proceeds.

- As noted below, a number of participants in the region's electricity markets have identified our growing reliance on natural gas as a concern from reliability and/or price perspectives. DOER should use a portion of RGGI Auction proceeds to support the development of distributed renewable and combined heat and power resources in the interest of supporting a reduction in reliance on regional energy markets, improving fuel diversity, and helping reduce energy costs for Massachusetts' energy consumers.

- Experience with electricity and natural gas markets has revealed the value and importance – from the perspectives of consumer protection, market design and administration, and efficiency – of markets that are open, transparent, and monitored for effectiveness and manipulation. Many are concerned with the potential for manipulation of the RGGI allowance market, and the risk exists that problems with the RGGI market could have significant and long-term impacts on electricity consumers and on the success of the RGGI program. We recommend that a portion of the RGGI auction proceeds be dedicated to the purpose of effective monitoring of the RGGI allowance market in at least the first several years of program administration. Such proceeds would benefit consumers by monitoring allowance price formation, identifying any abuses of new market rules, and identifying potentially important recommendations for changes in market rules to improve program administration, and lower costs. Proceeds could be used to establish in-house DOER expertise, or to fund the hiring of a qualified market monitor for the RGGI program.

- DPU should participate with a seat on the Auction Advisory Committee and be included in the group of stakeholders who will be convened annually to advise EEOEA on the best use of auction proceeds.

- DEP and DOER propose to retire up to 200,000 allowances per year for voluntary purchases of renewable energy associated with programs of "green energy" purchases provided by energy suppliers in Massachusetts. The administration of such programs is subject to review and approval of the DPU, based upon compliance with DPU regulations and policies governing electricity supplier activities in the state. DPU notes that the ultimate impact on emissions would be governed by a number of complicated factors related to project economics, market bidding and dispatch activities, evolving renewable resource and emission requirements, and supplier marketing strategies. Consequently, the DPU is not able to assess whether it is appropriate to specifically set aside allowances at this time, given the current level of uncertainty in the design of eligible voluntary programs, appropriateness for the retirement of allowances, and calculation of the associated quantities. In light of this, DPU recommends that the cap on such allowances should not be allowed to exceed the current proposed cap of 200,000 allowances.

We also note that the proposed rules contain important program design features, impact mitigation, and pressure release valves that introduce a significant degree of flexibility and cost containment. These include the use of a cap-and-trade program design, 3-year compliance periods, relatively frequent allowance auctions, the use of offsets, and triggers that extend compliance periods and increase the use of eligible offsets if RGGI allowance prices exceed certain thresholds. DPU believes that all of these features will enable the program to proceed at the outset in a deliberative, cautious manner, focused on containing the potential costs on electricity customers in the Commonwealth and that such mechanisms are important design components of the RGGI program and should be maintained in final program design.

III. RGGI and System Reliability

Maintaining the reliability and integrity of the power systems across the RGGI region is a federal requirement, currently overseen and enforced by the North American Electric Reliability Corporation, and administered by each RTO/ISO. Given this fundamental requirement and in observation of the historical practices and operations of regional system administrators, we do not believe that RGGI could or would jeopardize power system reliability. However, a key element governing the ease and cost of maintaining system reliability is the adequacy and diversity of power system infrastructure. Fuel diversity has been highlighted by the New England Independent System Operator as one of the important factors in assessing long-term infrastructure decisions related to the New England power grid. The value of power system diversity further highlights the importance of directing auction proceeds to increased efficiency and distributed resource development, as proposed in the auction regulations.

IV. Conclusion

DPU agrees with the conclusion reached by DEP and DOER that the Commonwealth must begin to address and prepare for meeting our growing demand for electricity in ways that slow, stop and reverse the power system's contribution to growth in greenhouse gases. Addressing this now through participation in RGGI is an appropriate first step for Massachusetts, one that we believe has carefully considered the complex set of technical, market, and economic factors involved, and that will ultimately help prepare our power system and transition our state to more effectively compete in the carbon-constrained economy of the future. DPU applauds DEP and DOER on their development of a set of comprehensive auction and emission compliance regulations that we believe strikes the right balance between achieving this vitally important goal of beginning to address the social, economic and environmental risks of climate change, while paying close attention through program design to the potential impact of the RGGI program on the electricity consumers of the Commonwealth.

Respectfully submitted,

/s/
_____
Paul J. Hibbard, Chairman

/s/
_____
W. Robert Keating, Commissioner

/s/
_____
Tim Woolf, Commissioner

Massachusetts Sierra Club

To: Nicholas Bianco, MassDEP (Nicholas.M.Bianco@state.ma.us)
Robert Sydney, DOER (Robert.Sydney@state.ma.us)

From: Massachusetts Sierra Club

Date: September 24, 2007

Regarding: Proposed 310 CMR 7.70 and proposed amendments to 310 CMR 7.29 and 310 CMR 7.00: Appendix B(7)

The Massachusetts Chapter of the Sierra club, representing 20,000 members, wishes to thank you for this opportunity to submit these comments and for the state's willingness to bring all the various agencies together in working on RGGI.

While the Sierra Club is extremely concerned about the potential impacts of climate change, we are skeptical that a cap-and-trade program can lead to a significant reduction in CO_2 emissions. A carbon tax is generally viewed as the most effective tool to reduce energy use, stimulate the development of renewable energy sources, and reduce CO_2 emissions. Nevertheless, we applaud Massachusetts's efforts to address climate change and their inclusion of a 100% auction for allowances, which will function similarly to a tax. Massachusetts should take great care to ensure that emission allowances are not over-allocated, as they were in Europe.

The funds generated by allowance auctions should be focused on programs for energy efficiency and assistance to low-income households with higher energy rates. If the funds are split between numerous programs, there may be insufficient money to effectively complete any one project.

While the Sierra Club understands the importance of accommodating Massachusetts businesses, if we only achieve a 10% reduction in CO_2 by 2018, it would place an unreasonable burden on society to reach the necessary goal of an 80% reduction by 2050. Therefore, we would like to see more aggressive reductions in CO_2 to prevent laying the burden on future generations. It is important to remember that our current emission levels are already having devastating impacts in the arctic, coral reefs, and low-lying areas throughout the world.

Concerns over businesses moving to states or countries with cheaper energy sources emphasize the need to make RGGI a model for the nation and ultimately the world. Furthermore, businesses tend to locate where they can find the labor they need, and good labor wants to live in areas offering a good quality of life. We would also like to point out that developing countries, such as China and India, are only likely to address climate change if the United States makes a realistic attempt to address the problem that we had a heavy hand in creating.

It is unclear why Massachusetts has included a cap on the number of allowances that can be retired each year. Even if it is unlikely that large numbers of allowances will be retired, the option should be available to encourage the rapid development of renewable energy sources.

The Sierra Club is concerned about leakage, where RGGI would not take into account the use of coal-generated electricity from states that are not participating in RGGI (e.g., Pennsylvania, Ohio). Leakage demonstrates, again, the need for a competent national energy policy. We must carefully track the problem of leakage to enable Massachusetts and other states to pressure the federal government into taking immediate action.

The Sierra Club is concerned about the inclusion of offsets that may have questionable benefits in reducing CO_2 emissions. A key concern is the offset of tree-planting, whose positive impact would vary greatly depending on species, climate, and many other factors, and whose level of impact would be difficult to measure and thus subject to manipulations. Furthermore, reducing CO_2 emissions should already be worked into RGGI through auctions and other mechanisms.

Massachusetts has a unique opportunity to develop an effective tool to address climate change, which could potentially be applied at a national level. Therefore, it is crucial that we create a program that aggressively reduces greenhouse gas emissions. We cannot leave this problem to our children; by that time, it will be too late to address it without severe human-enforced or nature-enforced consequences.

Very truly yours,

David Heimann, Chair
SIERRA CLUB, Massachusetts Chapter

Menard, Joan
Commonwealth of Massachusetts
Senate Majority Whip

September 20, 2007
Mr. Nicholas M. Bianco
Massachusetts Department of Environmental Protection
Bureau of Waste Prevention
One Winter Street
Boston, MA 02108

Dear Mr. Bianco:

RE: DOER C02 Budget Trading Program Auction Regulation, 225 CMR 13 .00 and MA RGGI Implementation Rules, 3 10 CMR 7.70

Thank you for this opportunity to comment on the newly proposed Massachusetts Department of Environmental Protection Regional Greenhouse Gas Initiative (RRGI) regulations and the proposed Division of Energy Resources RGGI auction regulations. As the State Senator for the First Bristol and Plymouth districts, I am not only concerned with energy and environmental issues, but how we use the resources of this State in a manner that is most beneficial to its citizens. I want to first commend DEP for its efforts over the years in addressing global warming, including adopting the first in the nation C02 power plant rules. Having said, that I strongly believe in a national or even an international system of C02 regulation. However, the regulations to implement the regional system have the potential to create substantial cost for Massachusetts yet very little environmental relief.

Base-load fossil-fired units which operate in my district include NRG's Somerset Station and Dominion's Brayton Point Station. These facilities are electric generating resources which provide regional fuel diversity, are reliable and operate at low cost. Base load facilities are the sole reason that approximately 75% of all energy sold in New England is sold through bilateral contracts. These contracts provide stable and predictable energy costs.

As you are aware, Massachusetts landfill resources are limited and the likelihood for citing additional landfills in this state are waning. My home city of Fall River hosts the largest landfill in Massachusetts The proposed RGGI amendments provide us with an opportunity to take the biomass definition and expand it so as to insure that landfills such as the Fall River landfill can be eliminated. MassDEP should expand the definition of biomass to include biomass derived feedstock which has been approved by the Department through a Beneficial Use Determination, pursuant to 310 CMR 19.060. This is critical for preserving valuable landfill space in Massachusetts and in other states, reducing methane emissions from landfills which are 23 times more potent a greenhouse gas than carbon dioxide, and providing incentives for the fossil-fuel fleet's transition to alternative fuels. Straight co-firing of biomass at existing fossil fired power plants in compliance with their existing air permits and the co-firing of synthetic natural gas derived from biomass feedstock (which has been approved by the Department through a Beneficial Use Determination pursuant to 3 10 CMR 19.060) should both count under an amended definition.

There are a number of issues that concern me regarding RGGI. It is well known that Pennsylvania is one of the largest coal producing states in the country as well as one of the largest C02 producing states in the country. Pennsylvania is outside the RGGI region, yet has the ability to sell its low cost and high C02 emission electricity into the region. As RGGI raises the cost of energy in its region, it is inevitable that Pennsylvania will sell more of its low cost energy into the region. This creates the problem of additional C02 being emitted from that state. This significant problem is not addressed by these regulations.
It is very likely that these regulations will raise hundreds of millions of dollars. In my years on Beacon Hill, I know of no program of this magnitude which seeks to expend funds without appropriation by the Legislature. Under the Constitution of this Commonwealth, the Legislature is the sole appropriating

authority. The regulations must specifically state that the expenditure of these funds will be determined by the Legislature.

Massachusetts already has the first C02 regulation of power plants in the nation. This regulation has a price cap to protect the consumers of Massachusetts. There appears to be no price cap in the regulations which you are proposing and I urge you to consider including one to protect our businesses and consumers. We already have some of the highest electricity rates in the nation. The additional funds raised by these regulations will have a significant impact on my district. We just lost one of the largest manufacturers in the region when Quaker Fabrics closed its facility. One of the reasons cited was the high cost of doing business in Massachusetts, particularly the high cost of energy. We know that these jobs will reemerge in a different part of the world, no doubt, using electricity from facilities a lot less regulated than those we have here in Massachusetts.

Lastly, I have a concern about the delegation of Massachusetts' authority to a non-elected regional body based in New York City. Electricity is one of the basic necessities of life. Every resident and every business requires it. I understand the need for national legislation on many issues and of course recognize Massachusetts' role in a federal system. RGGI, however, is something quite different. It is an ad hoc regional system. I don't believe the Legislature or our agencies should in any way be governed by this entity.

I look forward to working with you on solving the many environmental problems our society faces, but to continue to do so in a way that protects our citizens and our economy.

Joan M. Menard

Millennium Power

September 24, 2007

Via Electronic Delivery
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Dear Mr. Bianco and Mr. Sydney:

Millennium Power Partners L.P. ("MPP") appreciates the opportunity to comment on the proposed rule 310 CMR 7.70, "*Massachusetts CO2 Budget Trading Program,"* rule 225 CMR 13.00, "*DOER CO2 Budget Trading Program Auction Regulation,*" and the proposed amendments to 310 CMR 7.29 and 310 CMR 7.00 Appendix B(7).

MPP is managed by Competitive Power Ventures, Inc. ("CPV"), a greenfield development, asset management and transaction execution company focused on the North American power generation market. CPV's power plant development program encompasses large-scale wind and other renewable projects, as well as clean, high efficiency natural gas fired projects.

North American Energy Services ("NAES") provides the operations and maintenance services for the Millennium facility. NAES is a leading provider of proven, cost-effective, third-party operations and maintenance ("O&M") services, and their present portfolio of O&M experience includes more than 32,000 MW of power generation. MPP, through NAES, operates a 360 MW combined cycle plant in Charlton, Massachusetts. Commissioned in 2001, it burns primarily natural gas and is one of the cleanest and most efficient fossil-fuel fired generating facilities in the Commonwealth. Because of its efficiency, under regulatory programs for other pollutants, MPP typically has excess allowances that it can sell to offset some of its operating costs. This helps keep the facility competitive with other lower-cost, less efficient electric generating facilities. Under the proposed 100 percent auction, however, even this efficient plant will face difficulties securing the allowances needed to continue operation.

Environmental regulations should rely, to the extent feasible, on market-based compliance mechanisms to strike the proper balance among environmental, economic development and reliability needs. Regulations should also encourage efficiency and innovation, and help to establish a market where investment in new technologies and cleaner facilities is encouraged. To that end, MPP believes MassDEP and DOER should have two goals for these regulations: encouraging efficient generators and new investments, and protecting the Commonwealth's reliable energy supply through a transparent and effective auction process. Our comments reflect these two goals.

I. Encourage Efficient Generators and New Investment
CAP THE AUCTION AT 25 PERCENT:
MassDEP's and DOER's proposal to auction 100 percent of the Commonwealth's allowances would discourage efficient generators and new investment. Unlike pollutants regulated under other cap and trade programs, CO2 has no commercially viable control or sequestration technologies. Since control

technologies cannot reduce the need for allowances, and MassDEP proposes to constrain the use of offsets, generators must obtain from allocations or the market all of the allowances they need to generate. A 100 percent auction of environmental cap and trade allowances has never been attempted, even for pollutants that have viable control technologies widely available. The impact that the 100 percent auction may have on allowance price, energy markets and reliability is uncertain, at best, given that the Regional Model Rule modeling never contemplated an auction above 25 percent. With no viable technology to reduce CO2 emissions, a 100 percent auction could result in sizeable disruptions to energy supply, as well as substantial increases in the price of electricity in Massachusetts. For example, a single well-financed bidder or a coalition of organizations could manipulate the market, leaving key generators without enough allowances to operate when needed. Because the newer, more efficient, facilities are often more expensive to operate than older facilities, an auction of 100 percent of allowances could leave the most efficient facilities priced out of the market.

MassDEP and DOER should adopt the Model Rule provision, auctioning only the 25 percent public benefit set aside. Understanding that the auction's purpose is also to generate revenue for MassDEP's investment in energy efficiency programs, MPP would alternatively support combining a 25 percent auction with a direct sale of credits to existing and new CO2 Budget Sources.

RECOGNIZE THE CONTRIBUTION OF FACILITIES THROUGH CO2 MITIGATION PLANS:

Starting with the Dighton Power Decision, the Massachusetts Energy Facility Siting Board (EFSB) has required developers of generating facilities to mitigate a portion of their CO2 emissions by making a monetary contribution to CO2 offset programs in the amount of one percent of facility emissions times $1.50 per ton. EFSB 96-3, at 42-43. When USGen New England, MPP's predecessor, appeared before the EFSB in 1997, USGen agreed on a donation of $305,000 for CO2 offsets in the first year of the project, offsetting one percent of its CO2 emissions at the plant over the next 20 years. In February 2001, the EFSB approved MPP's CO2 Mitigation Plan, implementing this offset requirement. Under the plan, MPP made a one time payment to purchase 305,000 tons of CO2-equivalent emissions reductions from a landfill methane recovery facility in New Hampshire, operated by CommonWealth Bethlehem Energy LLC. In June 2005, the EFSB concluded that through this payment of $305,000, MPP had complied with the CO2 Mitigation Plan and completely satisfied their obligation.

Consequently, MPP has already purchased offsets for one percent of its CO2 emissions from 2000 through 2020. MassDEP should value this early offset and payment into the allowance system, and account for this expenditure through a set-aside for the facility in two ways. First, the offsets that MPP purchased to represent one percent of emissions from 2000-2008 should be included as Early Reduction CO2 Allowances (ERAs) under 310 CMR 7.70 (5)(c)(2). These 122,000 tons of CO2-equivalents, or 2/5 of the total 305,000 tons of CO2-equivalents that MPP has purchased, reflect the same investment in taking early action to reduce emissions as reductions at facilities taken during the early reduction period that qualify for ERAs. Second, the remaining offsets, representing one percent of MPP's emissions for 2009-2020, should be recognized and accounted for through a direct allowance to the facility of 183,000 allowances, representing the 183,000 tons of CO2-equivalents that MPP has already purchased for this period. Without such a set-aside, MPP and other similarly situated facilities will be penalized for their early reduction efforts and required to offset the same emissions twice. This would be patently unfair. The CO2 Allowance Allocations set forth in the proposed rules include programs that provide set-aside allowances for particular groups and programs that the Commonwealth seeks to encourage, such as pre-2009 investment in offsets, efficiency, and CO2 reductions under the GHG credit program in 310 CMR 7.00 Appendix B(7)(h). In addition, the ERA program, set forth in 310 CMR 7.70(5)(c)(2), reflects the Commonwealth's recognition of the significant impact that facilities who take early steps to reduce the Commonwealth's overall CO2 footprint can have. MPP requests that MassDEP recognize its substantial contribution to this same cause, in this same manner.

EXPAND THE GEOGRAPHIC SCOPE AND CATEGORIES OF OFFSET PROGRAMS IN 310 CMR 7.70(10):

That CO2 emissions mix globally within one month of emission has been discussed throughout the RGGI proceedings. Avoiding or removing one ton of CO2 anywhere in the world creates the same environmental result as avoiding or removing a ton of CO2 from within the RGGI region or Massachusetts. The cost of avoidance or removal, however, can vary significantly with geographic location and type of program utilized. Since the net result of avoidance or sequestration projects, worldwide, is the same for the global environment, the offset regulations should encourage companies to seek out and invest in the most efficient and economically responsible programs, where ever they may be found, so long as such offsets can be verified.

One of the primary benefits to establishing a cap and trade system is that it provides incentives to find creative solutions to control emissions. Limiting the technologies and programs that are eligible for offset credits defeats this valuable benefit. Instead of identifying a few known or likely available technologies, 310 CMR 7.70(10) should be revised to create a mechanism by which new technologies – anywhere in the world – can be evaluated and approved when they are demonstrated to be effective CO2 controls.

EXPAND THE CAPACITY TO USE OFFSET ALLOWANCES UNDER 310 CMR 7.70(6)(E)(1):

As previously mentioned, unlike other cap and trade regulated pollutants, there are no commercially viable control or sequestration technologies for CO2. Since neither efficiency nor control technologies can eliminate the need for allowances, offset mechanisms are all the more necessary. The proposed Offset Allowance Trigger mechanisms do not provide sufficient flexibility to allow CO2 Budget Sources to comply in ways that minimize the likelihood of price spikes. Instead of limiting a source's use of offset allowances to 3.3 percent of their compliance obligations under normal circumstances, up to 5 percent if the 12-month average allowance price rises above the $7 threshold, and up to 10 percent if the 12-month average allowance price rises above $10, the regulation should allow for much broader use of offsets. The current proposal would give generators no practical way to comply other than buying allowances, since even the most substantial price hike would allow only 10 percent of allowances to be replaced by offsets. When the number of allowances is cut, beginning in 2014, these restrictions, coupled with the auction structure, would essentially require CO2 Budget Sources to stockpile allowances, in anticipation of high prices and scarcity. This would be detrimental to the Commonwealth in two ways.

First, stockpiled allowances would, by definition, not be available to the market, disrupting a reliable electricity supply.

Second, the significant funds that generators would have to pay to obtain these allowances would be diverted from direct investment in offset-providing innovative technologies, green projects and new, cleaner plants.

Cap and trade systems should encourage, rather than discourage, investment in clean, innovative technologies. By restricting the use of offset allowances, MassDEP creates a disincentive for such investment. Consequently, 310 CMR 7.70(6)(e)(1) should be expanded substantially to allow generators to comply with the regulations through use of offsets. Instead of MassDEP's proposal, 10 percent be allowed as a baseline, 25 percent be allowed if prices reach $7, and 50 percent if prices rise above $10.

II. Protect the Commonwealth's Reliable Energy Supply through an Effective and Transparent Auction Process

CREATE TIMELY AND TRANSPARENT AUCTIONS:

In establishing the auction regulations, DOER should be mindful that the more difficult regulations make doing business in the Commonwealth, the less likely energy generators will choose to invest money in improving existing plants or constructing the new, cleaner plants on which the Commonwealth is relying, in part, to reduce its CO2 footprint. Many features of the proposed auction regulations run contrary to a policy of simplifying business transactions and encouraging more investment, and instead seem to have been designed to provide flexibility to program administrators, at the cost of clarity and transparency in the auction process. One such provision is 225 CMR 13.11, which states that the winning bidders and

outcome of the auction will be withheld for six months following the auction. MPP agrees that there are some benefits to withholding from the general public the full details of auction results and subsequent trading of credits, so as to avoid open auction manipulation and bidding wars designed to push prices up and forcing CO2 Budget Sources unable to obtain allowances to cease operations. However, participants in each auction need to know whether they won or lost promptly after the auction, so as to adjust strategic plans, obtain board approval for future investments, and make long-term business decisions based on this success or failure. This need for information and transparency intensifies as deadlines for compliance approach. Consequently, DOER should notify participants of their relative success and release to the public the dollar amounts and number of allowances purchased by the winning bidders, within 5 days of the auction.

For the auction process to succeed, DOER must establish auction procedures that are transparent, easily understood, and as specific as possible. Unfortunately, the proposed procedures do not meet these standards. DOER can change the auction type and procedures (225 CMR 13.06), the categories of buyers eligible to participate in the auction (225 CMR 13.08), and the number of allowances for sale at the auction (225 CMR 13.06(5)), as late as 30 days before the auction. Moreover, DOER can set a reserve price for an auction, without notifying auction participants in advance (225 CMR 13.06(7)).

MPP recognizes the probability that, despite widespread protest, DOER and MassDEP will likely proceed with auctioning a large percentage of CO2 allowances. If DOER and MassDEP retain this flawed approach, they must at least take steps to ensure that a large-scale auction results in an efficient and easily navigated market. Otherwise, investment in energy supply within the Commonwealth will suffer. For the market created by the auction to be efficient, participants must have sufficient information to make reasonably informed investment decisions. At a minimum, this requires a consistent auction method, consistent eligibility requirements for market participants, publication of the reserve price, if any, and longer lead times regarding supply of allowances.

ALLOW FOR AUDIT AND ADJUSTMENT OF AUCTION PROCESS:
Massachusetts has a unique opportunity as one of the first states to develop its CO2 Budget Trading Program to set an example for other RGGI states and, eventually, a national greenhouse gas program. The Commonwealth should take full advantage of this opportunity by crafting its regulations to demonstrate that an efficient and healthy electricity market can co-exist with effective greenhouse gas reduction policies. If Massachusetts can establish an efficient, fair and effective regulatory process, transitioning to the national program will give businesses within Massachusetts a competitive advantage.

Throughout the RGGI stakeholder process, it was widely acknowledged that with more experience, the stakeholders and regulators would be better able to determine how the auction process should be refined and improved. Creation and regulation of markets is, at best, an inexact science. This is particularly true where the resource in question, CO2, has never been fully commoditized. Never before has a large-scale auction of CO2 allowances been attempted, let alone with a potentially unlimited scope of participants. Because no market data exists for a 100 percent auction as contemplated here, and what little data we have from other credits trading schemes is only tangentially related, it goes beyond optimism to expect that the auction procedures and market will be optimally efficient from the beginning. A new market is inherently unstable and filled with uncertainty. It will take some degree of market turnover, over a period of months or years, for the auction process and market to establish an equilibrium price. Consequently, only by revisiting the market parameters and auction regulations later can the regulations be honed to take full advantage of the benefits and incentives that an effective CO2 cap and trade system can provide.

Although DOER should establish auction procedures that provide certainty and transparency, enabling participants to make informed decisions, the regulations surrounding the auction process should not be immutable. It is imperative that the auction procedure and policies be revisited after data has been collected and participants have had time to experience the market system as established. MassDEP and

DOER should include in the proposed regulations a program that provides for a Best Practices Audit to be undertaken after five auctions, approaching the midpoint of the compliance cycle. This timeframe would allow the opportunity to make mid-course corrections, saving generators and consumers from potential crisis at the compliance deadline. This procedure would also save the agencies from having to go through onerous notice and comment regulations so soon after finalizing the initial rules. As part of the audit, the agencies should retain a third party expert to interview market participants and review auction data to determine how well the auction process is achieving the objectives for which it was created. After a period of review, the auditors would issue a report and recommendations on how the auction process and related MassDEP policies could be improved. This public process of soliciting improvements on a periodic basis should be repeated at the close of the first and second compliance periods to ensure that the recommendations and changes are helping to meet the goals of the policies and auction.

OPEN THE REGION AND CLOSE THE AUCTION:
Another way that DOER can improve the likelihood of success for the market is by expanding the scope of suppliers that are eligible to participate. MPP applauds the statement in 225 CMR 13.03 that the Massachusetts auction will not go forward if a regional auction is created. A regional auction will help to ensure a reasonable supply of allowances for the generators who need them and to reduce the potential for price spikes and market manipulation that would be faced in a Massachusetts-only auction. Therefore, DOER should commit to delaying implementation of the auction process until the other RGGI states, or at least the NEPOOL states, commence distribution of their allowances.

While broadening the scope of suppliers through a regional auction would help to reduce the potential for abuse and manipulation of the market, care must still be taken to control the scope of demand in the auction. As previously mentioned, open auctions of 100% of allowances would provide great opportunity for market manipulation and abuse, both of which hurt Massachusetts consumers. For this reason, DOER should amend 225 CMR 13.08 to limit the auction participants during the first 3->ear compliance period to Massachusetts CO2 Budget Sources (a "closed" auction.) This approach would prevent market spoilers from manipulating the market before it has a chance to mature and become efficient. Investment funds, speculators, non-generating entities and generators from other states are likely to purchase allowances, stockpile or scalp them later, adding further uncertainty and difficultly to participating in the untested market. For subsequent auctions, following the initial 3 year compliance period, MPP recommends that DOER implement dual auctions, so as to provide the right of first refusal to Massachusetts C02 Budget Sources, and only allow speculators, non-generating entities and generators from other states to purchase the remaining allowances.

Conclusion
In developing a C02 reduction policy, it is necessary to balance the need to reduce emissions with the need for reliable electricity at a reasonable cost. Consequently, regulations should be shaped to encourage efficiency and innovation, and help to establish a market where investment in new technologies and cleaner facilities will be encouraged.

MassDEP and DOER should seek to effectuate two goals: (1) encouraging efficient generators and investment, and (2) protecting the Commonwealth's reliable energy supply by creating a transparent and effective auction process. MassDEP policies should create incentives for reasonable efforts to reduce emissions, given current technology, and efforts to encourage and develop new technologies. The regulations should also promote mechanisms, such as offsets, that can be used to achieve compliance and environmental benefits in the interim. DOER auction procedures should be set to maximize security and promote investment. Particularly in the early phase of a nascent C02 market.

Very truly yours,
Mark D. Winne. Plant Manager
Millennium Power Partners, L.P

Mirant Canal, LLC and Mirant Kendall LLC

Dear Mr. Bianco and Mr. Sydney:

Mirant Canal, LLC and Mirant Kendall LLC ("Mirant" or the "Companies") appreciate the opportunity to comment on the Massachusetts Department of Environmental Protection (MADEP) proposed rule 310 CMR 7.70, "*Massachusetts CO_2 Budget Trading Program,"* Massachusetts Division of Energy Resources (MADOER) rule 225 CMR 13.00, "*DOER CO_2 Budget Trading Program Auction Regulation*," and the proposed amendments to 310 CMR 7.29 and 310 CMR 7.00 Appendix B(7). Mirant has participated in many of the Regional Greenhouse Gas Initiative (RGGI) stakeholder meetings and has a strong interest in this process.

Overview

The Companies own and operate electric generating facilities in Massachusetts: Kendall Station in Cambridge, Canal Station in Sandwich and five small diesel units at two sites on Martha's Vineyard. Kendall and Canal are dual fuel units operating on natural gas and oil and are both subject to the new regulations referenced above. Canal Station is currently subject to 310 CMR 7.29.

As reflected in our "Principles for Addressing Greenhouse Gasses" included here as Attachment A, Mirant believes that the most effective, reasonable and lasting approach to reducing carbon dioxide ("CO_2") emissions is a "cap and trade" regime imposed on CO_2 emitted by all sources. Regulation works best when its design is consistent with market forces, consumer welfare and technological feasibility. Mirant's comments on the proposed rules and amendments are driven in large part by the fact that, unlike pollutants regulated under previous cap and trade programs, there are no commercially available CO_2 control technologies that act as an allowance market alternative or "back-up" to the program. As proposed, the program would create significant potential for market manipulation and abuse, potentially resulting in substantial financial harm to the Commonwealth of Massachusetts ("Commonwealth") consumers and threatening their energy security.

Specific Comments

Mirant respectfully urges reconsideration of the following flawed aspects of the proposed rules and amendments:

First, MADEP's and MADOER's proposal to auction 100 percent of the Commonwealth's allowances is premature and imprudent. A 100 percent auction has never before been attempted, and the potential impact on allowance price, energy markets and reliability are, at best, unknown. Because there is no viable technology to reduce CO_2 emissions, an auction of 100 percent of the allowances could result in substantial disruptions to energy supply, as well as substantial increases in the price of electricity in Massachusetts. One well-financed bidder could manipulate the market, leaving multiple electricity suppliers without allowances necessary to operate. We believe that these concerns led the authors of the RGGI Model Rule to propose that only 25 percent of allowances be auctioned. At a minimum, MADOER should consider other options such as varying percentages of allocations to the generators and to the auction.

Second, the proposed regulations do not address confidentiality for the auction results or allowance tracking process. Particularly when coupled with the potential for open auctions in MADOER's rules, and the requirement that a facility purchase all of the allowances needed for continued operations, the rule creates a situation ripe for market manipulation and abuse. For instance, if other bidders have access to full information about auction results and subsequent

trading of credits, they can easily determine how many additional credits a CO_2 Budget Source needs to purchase in a late-stage auction, and take advantage of the Source's poor bargaining position to push the auction price even higher. Such manipulation will result in reduced production, and potentially force generators in strategic locations to cease operations, distorting and disrupting the electricity market in Massachusetts and throughout the region.

Mirant recognizes that state agencies are severely constrained in the degree to which they can provide confidential treatment for data in their possession and in the possession of their contractors. Neither MADEP nor MADOER has sought a legislative solution to provide adequate confidential treatment for this new auction process. Mirant recommends that the agencies seek emergency legislative authority to protect the results of any auctions from public disclosure except as aggregated data. In addition, the proposed rules must, if implemented, explicitly describe the procedures that will be implemented to guarantee the security of the auction results, steps that will be taken in the event of disclosure, and penalties that will be imposed for such disclosures.

Third, while Mirant appreciates the acknowledgement, implicit in the Offset Allowance Trigger mechanisms, that allowance prices could reach $10 or more, the proposed rule does not provide sufficient flexibility to CO_2 Budget Sources to comply in ways that minimize the likelihood of such price spikes. Instead of limiting a source's use of offset allowances to 3.3 percent of their compliance obligations under normal circumstances, up to 5 percent if the 12-month average allowance price rises above the $7 threshold, and up to 10 percent if the 12-month average allowance price rises above $10, the rule should encourage, rather than restrict, alternative means of compliance. The current proposal would give generators no practical way to comply with the rule other than buying allowances, since even the most substantial price hike envisioned would allow substitution of only 10 percent of allowances by offsets. Thus, particularly as the number of allowances begins to decrease in 2014, the rule would, as a practical matter, require facilities to invest significant sums to purchase additional allowances, in anticipation of high prices and scarcity, rather than investing in alternative approaches to reducing the impact of CO_2 on the environment.

We understand that the Commonwealth intends to invest the proceeds of the auctions to encourage developments in renewable energy. Mirant understands the intent for such a program. However, we respectfully oppose government creating a virtual monopoly to make such investments. Indeed, those businesses currently in the industry who understand both the markets and technology are equally, if not better, equipped to find solutions. Thus, it is appropriate that the regulations encourage, rather than discourage, companies from investing in such technologies. Unfortunately, the restrictive use of offset allowances provides a disincentive for such investments thought to be one of the primary benefits of a cap and trade system. This feature of the regulations should be revised to provide substantial additional authority for generators to comply with the regulations through use of offsets. At a minimum, 10 percent should be allowed as a baseline, 25 percent should be allowed if prices reach $7 and 50 percent if prices rise above $10. This type of offset mechanism is the only protection for generators against potential manipulation of the market. It would also be appropriate for MADEP to expand the scope of programs that can qualify as offset allowances.

Fourth, we understand that the Commonwealth's energy policy encourages co-generation facilities that produce a by-product, such as steam, which is then utilized to generate electricity as well. This results in lower CO_2 emissions than would otherwise occur if customers using such steam were to use other fossil fuels for space heating and process purposes. Accordingly, due to the overall emission-reduction benefits of co-generation, MADEP should clarify that end-use energy efficiency through such co-generation would constitute as a "reduction or avoidance of CO_2 emissions" under of 310 CMR 7.70(10)(c)(1)(a)(iv).

Fifth, the Voluntary Renewable Energy provisions of the proposed rule only serve as an unnecessary complication to an already complicated, and soon-to-be overstretched, market.

Although it is designed to encourage Massachusetts consumers to buy renewable energy, this program has the potential to materially reduce the amount of allowances available to key electric generating facilities within Massachusetts (up to 1,000,000 allowances in the first five years). This drastic cut in the availability of allowances will further disrupt the energy market and hurt the consumers it is purportedly designed to benefit. Moreover, the lack of detail in 225 CMR 13.14 specifying program requirements for eligibility only worsens the uncertainty that CO_2 Budget Sources face.

Sixth, many of the procedures and timelines in the regulations appear to be designed for the convenience of the program administrators, rather than the reasonable business requirements of those who must participate in this market. For instance, the timeline set forth in 225 CMR 13.11, withholding announcement of the winning bidders and outcome of the auction for six months following the auction, serves only to create unnecessary uncertainty and delay for CO_2 Budget Sources. Winning and losing bidders need to know the results of the auction much more quickly in order to adjust strategic plans, obtain board approval for additional future investments and the like. That need further intensifies as the compliance deadlines draw near. Furthermore, MADOER should release to the public only the dollar amounts and number of allowances purchased by the winning bidders, and not their identity or business classification. Additionally, allowing the number of allowances to be sold at any given auction to be changed as little as 30 days before the auction date, as provided in 13.06(5), would severely impact the ability of CO_2 Budget Sources to plan ahead.

Seventh, Mirant vehemently objects to MADOER's proposal, under 225 CMR 13.08, to open the first and subsequent auctions to all possible bidders. As previously discussed, open auctions of 100 percent of the allowances would open the door to market manipulation and abuse, and would only serve to hurt Massachusetts consumers in the long run. Mirant believes that auction participants during at least the first compliance period should be limited to Massachusetts CO_2 Budget Sources (i.e. a "closed" auction). This approach will prevent investment funds, speculators, non-generating entities, and generators from other states from purchasing allowances and "scalping" them later, only adding further uncertainty and expense to this untested regulatory program. As the total CO_2 emissions from Massachusetts generators greater than 25 MW is currently near the 2009 cap, limiting participation in the auction to CO_2 Budget Sources will provide some confidence that Massachusetts generators can provide a reliable energy supply to the consumers. For any subsequent auctions, MADOER must structure dual auctions, so as to provide the right of first refusal to Massachusetts CO_2 Budget Sources, and only allow speculators, non-generating entities and generators from other states to purchase the remaining allowances.

Eighth, MADOER should implement as part of its proposal, broad, anti-manipulation provisions that would be applicable to any participant in the market. Because, as discussed above, the auctions as proposed are ripe for manipulation, any participant in the market should be prohibited from to defraud, to provide misleading information, or to engage in fraud or deceit. Similar to the anti-manipulation language imposed on energy markets by the Federal Energy Regulatory Commission, 18 C.F.R. Part 1c, the MADOER should require participants in this auction market to be bound by similar requirements. Without any kind of prohibition against manipulation and oversight by MADOER, there is little hope of discouraging inevitable attempts at manipulation of the auction.

Finally, Mirant believes strongly that any effect of greenhouse gas emissions is global. Solutions should be advanced on a national basis. In no case should state-by-state peculiarities be promoted. RGGI was based on the premise that, because CO_2 is a global problem, solutions need to be broad-based as possible. We understand that the states in RGGI claim to have acted because the United States has not. Nonetheless, given the local costs and diffuse benefit, it is appropriate that

the states in RGGI act together as much as possible, in order to minimize the potential for disruption. Thus, promulgating regulations as close to the Model Rule as possible is far preferable than Massachusetts modifying the regional design. In addition, these rules should contain an explicit sunset provision contingent upon enactment by the federal government of a federal cap and trade program or carbon tax.

In conclusion, Mirant believes that while the regulation of greenhouse gases on a national basis would be a beneficial undertaking, MADEP's and MADOER's proposed rules and amendments should recognize and account for the realities of CO_2 emissions and technologies. There is currently no technology on the horizon that would reduce CO_2 emissions from existing plants. Reducing CO_2 emissions means, as a practical matter, running coal, oil and gas-fired power plants less. That is why greenhouse gas emission rules must embody a careful balancing to reduce emissions without reducing reliability or driving up the price of electricity in our economy. Mirant respectfully recommends that the changes set forth herein be adopted to achieve such balance.

If you have any questions, please contact Shawn Konary by email or by telephone at 617-529-3874 or me by email or by telephone at 508-533-9311.

Sincerely,

Jeffrey R. Perry
Vice President

Michael W. Morrissey, Senate Chairman
Brian S. Dempsey, House Chairman, Chairman
Telecommunications, Utilities and Energy Committee
Commonwealth of Massachusetts

September 24,2007

Mr. Nicholas M. Bianco
Massachusetts Department of Environmental Protection
Bureau of Waste Prevention
One Winter Street
Boston. MA 02108

Dear Mr. Bianco:

RE: DOER C02 Budget Trading Program Auction Regulation, **225 CMR 13.00** and **MA RGGI** Implementation Rules, **310** CMR **7.70**

We are writing today regarding 310 CMR 7.70, a regulation which seeks to implement a cap in trade system based on the proposed model rule that was developed by the Regional Greenhouse Gas Initiative (RGGI) and 225 CMR 13.00, the DOER budget trading program auction regulation. As you know, 310 CMR 770 seeks to replace our current C02 regulation of 310 CMR 7.29 which won't be fully effective until January 1, 2008. We have a number of continuing concerns regarding these proposed regulations.

First, it appears that 310 CMR 7.70 could encourage the use of power from outside the RGGI region, thereby increasing the C02 emissions from states such as Pennsylvania and Ohio. Because RGGI caps C02 emissions from its member states, and also charges an allowance fee for the right to emit C02 emissions within the RGGI area, states which are outside the area paying no fee will inevitably increase generation. We are also concerned that the increased nitrous oxide and sulfur dioxide and mercury emissions flow into our region from upwind coal fired power plants. The RGGI proposal not only increases the likelihood of NOx, SOX and mercury emissions flowing into our region, or leakage, but also increases the likelihood that additional C02 emissions will be generated within those two particular states.

Advocates that we have heard from have indicated that benefits promised by RGGI would likely be reduced by this leakage phenomenon. It is our understanding that at public hearings held by the Department of Environmental Protection and the Division of Energy Resources, groups such as the Union for Concerned Scientists and the Conservation Law Foundation urged for the finding of remedies to the leakage problem. If such proposed increases in energy prices due to RGGI implementation are seen in addition to this proposed real lack emission reductions, it is extremely difficult to support increases in the cost of energy without significant reductions in C02.

Second, we are concerned that unlike 7.29 and unlike NOx and SOX programs, there is no cap on the cost of allowances. Currently, our 7.29 regulations cap the cost of offsets at $10 and technology caps the cost of NOx and SOX by making available to power plants the technology to reduce NOx and SOX at a certain price. RGGI is currently without any cap whatsoever. We have been informed by Executive Office of Energy and Environmental Affairs Secretary Ian Bowles that the ultimate safety valve is that the Commonwealth can withdraw from RGGI if costs get out of control or reliability is threatened; however, we see no language in these regulations which allow for such a withdrawal. It is our understanding that specific language does appear in Maine's statute, and we feel that similar language should also appear in Massachusetts' given the many unknowns associated with RGGI.

Third, as the cost of RGGI allowances raises the price of the more traditional low cost generators such as coal fired power plants, RGGI will inevitably lead to a higher reliance on natural gas if renewables or energy conservation cannot be utilized to the fullest extent possible. In recent years, the Joint Committee on Telecommunications, Utilities and Energy has taken testimony and heard over and over the warnings against additional reliance on natural gas. We find it difficult to support any program that requires additional reliance on any one particular fuel source, and urge you to insure that whatever regulations are finally adopted, eliminate any additional reliance on natural gas in particular.

Fourth, We would like to note that unlike most every major C02 program in the world, the awarding of allowances is not based on 1990 numbers, but rather a more recent time period. This has the effect of penalizing Massachusetts for having reduced its C02 footprint since 1990, one of only two states in the nation to have done so. The Commonwealth deserves tremendous credit for having taken many difficult steps to protect our environment. Yet states which have done almost nothing in the same period of time will receive additional allowances as their C02 increased from 1990 to the 2002-2004 time period. Had RGGI adopted the model that has been but universally adopted and based its program on 1990 emissions, Massachusetts would have received many more allowances which could have been used to benefit our energy efficiency programs, our businesses, and our economy.

Fifth, it appears that the proposed regulations regarding biodiesel could be singling out a particular biodiesel mixture, and leaving out other important biofuel mixtures. We would ask that the Division of Energy Recourses and the Department of Environmental Protection further review the language and investigate allowing in for inclusion other 2nd and 3rd generation biofuels that also provide enormous environmental benefits and could actively participate in reducing greenhouse gas emissions.

Lastly, and of great concern is the fact that this program could well generate hundreds of millions of dollars in additional revenues that are proposed to be expended without appropriation or input by the Legislature. We feel that legislation would be required and must be adopted by the Legislature regarding any appropriations of these funds.

Thank you for the opportunity to comment on these regulations and we look forward to additional communication with the Administration on this and other important energy issues facing the Commonwealth.

Sincerely,

Michael W. Morrissey
Senate Chairman Committee

Brian S. Dempsey
House Chairman

Committee on Telecommunications, Utilities and Energy

National Grid

These are the comments of National Grid. In the US, National Grid delivers electricity to approximately 3.3 million customers in Massachusetts, New Hampshire, New York and Rhode Island and manages the electricity network on Long Island under an agreement with the Long Island Power Authority. National Grid is the largest power producer in New York State, owning 6,650 megawatts of electricity generation that provides power to over one million customers on Long Island and supplies roughly a quarter of New York City's electricity needs. It is also the largest distributor of natural gas in the northeastern US serving approximately 3.4 million customers in New York, Massachusetts, New Hampshire and Rhode Island.

National Grid is also a key provider of energy efficiency programs for customers and has been continuously providing these programs since 1987. In the 20 years of the programs, approximately 2 million megawatt hours in annual energy savings and more than $2 billion in customer electric bill savings have been realized in Massachusetts. National Grid strongly supports policymakers who are acting to enact effective policies to control the emission of greenhouse gases and allow future generations of Americans to enjoy a healthy and productive environment. National Grid is doing its part by committing to reduce its greenhouse gas emissions by 60% before 2050 and it is on its way to meeting this goal well in advance of 2050.

I. National Grid fully supports the MassDEP proposal to auction nearly 100% of its C02 allowances. Auction of these allowances and reinvestment of the proceeds on strategic energy goals of the Commonwealth will result in energy efficiency investments that will benefit the consumer through lower energy costs, lower energy consumption and lower greenhouse gas emissions. We also believe that the emission sources subject to this rule will have ample opportunity to recover the costs of allowances through the electricity markets.

II. Allocation of the auction proceeds to utility funded energy efficiency programs is the most efficient mechanism of ensuring effective investment in energy efficiency. Utilities have already existing programs that are available to invest the auction proceeds in a fair and non discriminatory fashion.

III. We encourage the Department to consider other C02 offset project types than those itemized in 310 [CMR 7.00 such] as methane emission reductions from the replacement of natural gas mains.

Respectfully submitted,
National Grid
Joseph M. Kwasnik
Vice President-Environment
Westborough, Massachusetts 01582

Northeast Biofuels Collaborative

September 24, 2007
Nicholas Bianco
MA Dept. of Environmental Protection
1 Winter Street
Boston, MA 02108

VIA Electronic Mail (Nicholas.M.Bianco@state.ma.us)

RE: Regional Greenhouse Gas Initiative (RGGI), MA CO2 Budget Trading Program

Dear Mr. Bianco:

I am writing in regard to MassDEP's proposal to transition from the CO2 emissions standards (310 CMR 7.29) to the MA CO2 Budget Trading Program, set to begin Jan. 1, 2009.

The Northeast Biofuels Collaborative is a nonprofit organization dedicated to increasing the use and production of biofuels in the region. The Collaborative is part of a national coalition that works on fuels policy at the state and federal level, including the State of California, where several key climate regulatory initiatives are underway. We applaud MassDEP and the Patrick Administration for advancing the goals of RGGI, and look forward to working with you on these and other issues that impact air quality and energy consumption.

The draft proposal outlined by MassDEP indicates that the agency will determine what constitutes "sustainably harvested biomass" for CO2 budget units interested in using biomass combustion for compliance obligations. Additionally, MassDEP and RGGI MOU signatory states are apparently researching the appropriate use of liquid biofuels for the purpose of deducting total CO2 emissions.

As you may know, California is currently developing a Low Carbon Fuels Standard (LCFS) in the transportation sector with the stated goals of reducing GHG emissions and stimulating technological innovation. The prospective LCFS has been approved as a discrete early action measure for AB 32, which is California's "cap and trade" rule. Sustainability and land use are critical challenges under consideration in the context of the LCFS and AB 32. The LCFS policy analysis prepared by UC Berkeley and UC Davis notes that, "[u]nfortunately, there is no well-established, well-understood, or reliable method for measuring [sustainability] effects," (Farrell, et al, p. 75). The authors recommend that the LCFS be kept as simple as possible in the early years as it is becoming established, and as a more workable sustainability metric emerges in Europe and the United States. In this context, initial recommendations from the University of California are that: (1) biofuels produced on protected lands (including old growth forests) should not be allowed to qualify under the LCFS; and, (2) there should be a reporting requirement for companies using biofuels, so that there is greater transparency in the market. It is critical to note that the LCFS policy recommendations explicitly state that "At the start of LCFS implementation, we recommend against regulatory requirements (for biofuels) beyond the reporting and land exclusion provisions" (Farrell, et al, p. 5).

While RGGI is based on power generation and not transportation, the Northeast Biofuels Collaborative encourages MassDEP to adopt similar provisions for biofuels as contemplated in the LCFS policy report — reporting mandates and regulations against protected land use, unless the biomass removal from these lands is already covered under state sustainable forestry practices. To require a bio-power generation feedstock to satisfy additional sustainability metrics over a traditional, fossil fuel feedstock simply puts the former at a market disadvantage and will dissuade the use of biofuels in the critical early years of RGGI implementation.

The best environmental outcome may eventually be to require all power generation feedstocks to undergo sustainability analysis, or to require all fuels (not just one type of fuel) to gradually increase their sustainability and/or reduce their carbon footprint. This model allows biofuels to compete on a level playing field. However, sustainability standards targeted at just the biofuels sector will have just the opposite effect, potentially crippling a nascent industry and undercutting the opportunity to immediately reduce the GHG impact of power generation facilities.

We support the effort to improve the sustainability of liquid fuels, and northeast biofuels producers look forward to the challenge of reducing the carbon intensity of today's petroleum fuels markets. Thank you for opportunity to comment on this important proposal. Please contact us with any questions you may have.

Sincerely,

/s/ Andrew Schuyler

Andrew Schuyler
Director
Northeast Biofuels Collaborative

Northeast Combined Heat and Power Initiative

Submitted to the Massachusetts Department of Environmental Protection and the Massachusetts Department of Energy Resources

On Proposed Rules:

310 CMR 7.70 - CO2 Budget Trading Program
310 CMR 7.29 - Emissions Standards for Power Plants
310 CMR 7.00 Appendix B(7) - Emission Banking, Trading, and Averaging
225 CMR 13.00 - DOER CO2 Budget Trading Program Auction Regulation

September 24, 2007

Comments of the Northeast Combined Heat and Power Initiative on Massachusetts' Proposed RGGI Related Regulations

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Comments of the Northeast Combined Heat and Power Initiative on Massachusetts' Proposed RGGI Related Regulations

I. Introduction

The Northeast Combined Heat and Power Initiative (NECHPI) appreciates the opportunity to submit these comments to both the MA DEP and the MA DOER regarding the draft rules implementing the

Regional Greenhouse Gas Initiative "RGGI."[18] NECHPI offers these comments to help Massachusetts meet its climate and energy challenges in a manner that promotes economic development and good jobs, reduces environmental impacts, improves the competitiveness of existing Massachusetts businesses and fosters greater energy security—all with a commercially available technology that dramatically increases the overall efficiency of energy use.

We strongly endorse the implementation of RGGI in general, and praise the thoughtfulness of the rule making process and in general the draft rules themselves. The decision to auction nearly 100% of the CO2 allowances is particularly praiseworthy, as this will maximize the economic efficiency of the program, reduce the risk of misallocation, raise needed revenue to support further mitigation, and send the clearest price signals about CO2. We also specifically support the proposals to retire allowances for voluntary purchases of qualified renewable energy, and for use of the auction proceeds to fund energy efficiency and clean energy technologies.

A. NECHPI promotes the market acceptance of CHP (Combined Heat and Power) in Massachusetts and throughout the Northeast

NECHPI is a regional organization, dedicated to the greater deployment of combined heat and power to enhance the economy and environment of our Northeast region. We are committed to doubling the use of CHP in the Northeast by 2010, a goal shared at a national level by the U.S. Department of Energy and the U.S. Environmental Protection Agency. NECHPI is an alliance of more than 40 regionally-based organizations, including CHP project developers and equipment manufacturers, electric and gas utilities, consultants, air regulators, state government agency representatives, universities and other organizations involved in the energy and environmental field. Through our regional activity we have gained the perspective necessary to apply lessons learned across various jurisdictions, and to foster best practices that maximize the societal benefits of CHP deployment.

NECHPI has long been involved in Massachusetts, and one of our priorities is to support CHP in the state. Demonstrating our involvement in Massachusetts, we have previously shared our expertise with the transition team that helped Governor-Deval Patrick develop his new agenda in the area of energy and environmental policy and frequently held our semi-monthly meetings here, including Cambridge in April of this year and more recently in Boston on August 30. In addition, we enjoy important relationships with researchers in the UMass system, members of Massachusetts industry who provide jobs, end users who seek to utilize CHP in this state, and Massachusetts environmental advocates.

B. CHP's efficiency and GHG benefits merit its inclusion in RGGI implementation

Combined heat and power (CHP), also called cogeneration, is the production of two or more forms of useful energy from a single fuel source. In most CHP applications, energy from a fuel such as natural gas is converted to both electrical and thermal energy used on-site, thus utilizing fuel energy very efficiently,

[18] These comments are submitted to both the DEP and the DOER, with general reference to all of the affected regulations (listed below) with emphasis on 310 CMR 7.70.

- 310 CMR 7.70 - CO2 Budget Trading Program (Cap and Trade system to control emissions of CO2 from power plants in Massachusetts, based on the Model Rule that was developed as part of the Regional Greenhouse Gas Initiative.)
- 310 CMR 7.29 - Emissions Standards for Power Plants (The portion of the existing regulation addressing CO2 emissions from six MA power plants will be modified and then replaced by 310 CMR 7.70.)
- 310 CMR 7.00 Appendix B(7) - Emission Banking, Trading, and Averaging (Regulation addressing GHG Credits will be modified and ultimately replaced by 310 CMR 7.70.)
- 225 CMR 13.00 - DOER CO2 Budget Trading Program Auction Regulation (Regulations to establish rules for conducting auctions of CO2 allowances created under the CO2 Budget Trading Program (310 CMR 7.70), and to detail procedures for informing MassDEP about the number of allowances to be retired annually for voluntary purchases.)

avoiding line losses, and reducing greenhouse gas emissions. CHP can save about 40% of the energy input required by conventional systems that provide electrical and thermal energy separately. Most CHP installations in Massachusetts have conversion efficiencies over 60% or 65% compared to standard conversion efficiencies of 33%. Savings of this magnitude provide significant GHG mitigation and other advantages.

One of the primary values of CHP is *thermal* efficiency,[19] as a component of the overall efficiency improvement CHP provides over separate electrical and thermal supply. NECHPI members recognize the importance of thermal efficiency, importantly but not exclusively as a climate change mitigation measure, and among other goals we seek to encourage greater attention to the importance of thermal efficiency. The proposed RGGI rules take several steps to recognize this value.

CHP also contributes to improved electrical efficiency, particularly that portion of electricity generated that can fairly be considered a captured by product of waste heat, but more broadly through its ability to reduce the entire ecological footprint of energy use, including GHG emissions.

Thus, CHP has a role and should be considered in tandem with RGGI implementation because of its GHG mitigation potential generally, because of its emphasis on thermal efficiency that is recognized in the proposed rules, because CHP displaces carbon-intensive oil with less carbon-intensive alternatives, and perhaps most directly because of its connection to efficient electricity consumption.

C. Overview of Comments

The NECHPI recognizes that the proposed regulations represent the culmination of a long and involved stakeholder process, and that many decisions affecting CHP have been settled, at least for the time being. Nonetheless, given the fast pace of change in Massachusetts energy policy, the possibility of further modifications to RGGI rules, the development of new offsets and other changes suggested in the "Next Steps" document, and pending decisions about how to prioritize use of the auction proceeds, we offer some general perspectives and proposals for further action. We also identify several technical issues and requests for clarification before the rules are finalized.

II. CHP Provides Numerous Climate Change Mitigation and Other Benefits

A. CHP provides environmental and greenhouse gas mitigation benefits – including significant environmental co-benefits

Two-thirds of all the fuel used to make electricity in the U.S. is generally wasted by venting unused thermal energy, from power generation equipment, into the air or discharging it into water streams. While other sectors of the economy have seen impressive energy efficiency gains since the oil price shocks of the 1970s, the average efficiency of power generation within the U.S. has remained around 33% since 1960. By contrast, integrated CHP or recycled energy systems significantly increase the efficiency of energy utilization, up to 85% efficiency, by using excess thermal energy from power generation equipment for cooling, heating and humidity control systems.

The electric power industry is only half as efficient at converting fuel into useful energy today as it was in 1920, largely because early power production tended to use CHP technologies. Thermodynamic principles suggest that any electricity grid that does not depend on CHP is destined to throw the majority

[19] The term "thermal efficiency" can describe the measurement of converting fuel into mechanical work. We do not intend to limit our understanding to this limited definition. Rather, we stress the total efficiency of converting a fuel's potential energy into energy and useful work (useful work and energy output divided by higher heating value of input fuel), specifically including end use heating and cooling.

of its energy away as waste heat.[20] If only half of this waste heat were recovered, the efficiency of energy use in most power plants could–and should–be increased by 50% or more, displacing fuel that would have otherwise been burned in a boiler or furnace.

CHP systems and other methods of waste heat recovery reduce carbon dioxide and other emissions by displacing the need for boilers or electric air conditioning. When energy needs can be met by using heat that would otherwise be wasted up a smokestack, less fuel is burned. Thus, pollutants including SOx and NOx as well as greenhouse gas emissions are reduced.

These benefits are public, and provide a significant boost to Massachusetts' compliance with the new RGGI mandate. However, these benefits do not necessarily appear without appropriate policies, and a well-designed set of regulations and value streams that reward optimization can help maximize the mitigation potential of CHP.

B. Additional benefits of CHP and on-site power make the case for CHP even stronger

In addition to the efficiency and intrinsic environmental benefits of using fuel inputs less wastefully, CHP provides other important benefits to Massachusetts. These include, but are not limited to, the following:

- **Electricity Price Mitigation.** Electric power prices are set in auctions run by ISO New England. Prices are likely to increase with the Forward Capacity Market and as aggregate demand increases. Generating power locally helps drive down prices (as well as the need for new transmission) by influencing market clearing prices.
- **Natural Gas Price Mitigation.** CHP has been shown to reduce net natural gas imports to the region. Displacing existing, less-efficient, gas usage conserves natural gas while also displacing gas that would be burned in central station generators, reducing net gas usage. A study that assumed 4,238 MW of new CHP were added in the Northeast region calculated natural gas consumption would fall by 4.2%.[21] Prices would decline by a greater percentage.
- **Reliable Power.** Many businesses, such as those in the financial and telecommunications sectors, have already invested in CHP, in part to help ensure high quality, reliable electrical power during times of grid stress. Many facilities may face similar needs, particularly with respect to emergency preparedness. A decentralized energy system utilizing CHP is intrinsically robust.
- **System Power Needs.** The New England grid faces supply shortages. On-site power such as CHP can help provide a critical margin of reliability for the system.
- **Business Competitiveness.** CHP efficiency gains accrue to the bottom line, enhancing profitability. By reducing energy consumption, lowering energy costs and improving power quality and reliability, CHP can save the economic viability of an otherwise failing firm, and keep business in Massachusetts. In some instances, utilizing renewable or recovered "opportunity fuels" provides additional benefits such as avoiding hauling, carting, disposal or sewerage costs caused by waste products that can be converted to an energy source, in addition to the enhanced GHG reduction.
- **Economic Development.** Distributed energy equipment and components production, engineering, maintenance and project development provide an array of good jobs and business opportunities.

These supplemental benefits of CHP deployment do not necessarily merit formal consideration under RGGI, but should be kept in mind as part of RGGI's goal to attain GHG reductions at lowest cost and with the many other benefits to the Massachusetts economy.

[20] Combined cycle gas turbine plants have achieved power-only efficiencies in the neighbourhood of 50% (higher heating value basis). However, our national power generation efficiency has been fixed at 33% since the mid 1950s in spite of gas turbine technological advances.

[21] Energy and Environmental Analysis, Inc., "Natural Gas Impacts of Increased CHP," submitted to the U.S. Combined Heat and Power Association, October 2003. Available at: http://uschpa.admgt.com/CHP_GasOct03.pdf

C. CHP is a cost effective solution

Recent studies of California's Small Generator Incentive Program (SGIP),[22] and a comparison of four states' energy development incentives, indicate that promoting CHP is a cost effective way to mitigate GHG emissions, at least compared to the cost of providing incentives to other generation technologies.[23] [See § IV below]

Some reasons for this cost effectiveness include CHP's relatively simple equipment that reduces costs compared to more experimental technologies, its "cross sectoral" offsetting of both electrical and thermal energy loads, and the variety of benefits to end users that may facilitate the leveraging of private capital via relatively small public funds.

Solar power, fuel cells and other emerging energy technologies hold great promise for meeting future energy need in an economical and environmentally sound manner. What distinguishes CHP is its ability to provide marked advances right now in the efficiency of energy use within the state. CHP is a cost-effective solution available today for reducing environmental and climate change impacts of energy use, providing a hedge against volatile fuel prices and slowing the export of energy dollars out-of-state.

D. State and regional climate plans recognize CHP's potentially valuable contribution

Numerous researchers, climate roadmaps, and state climate change plans have recognized CHP as a valuable and cost effective GHG mitigation tool. Some examples are described briefly below.

1) Maine Climate Action Plan

The Maine Climate Action Plan[24] recognizes policies to promote CHP as the most cost effective strategy of all options studied. The Plan recognizes that CHP's efficiency benefits provide a significant boost to Maine's compliance with the new RGGI mandate, and determines that CHP incentives are the most cost effective of all GHG reduction options that were considered, with a cost of negative $185 per tonne of saved carbon. The report considered numerous GHG reduction options. The cost effectiveness of CHP incentive polices compares very favorably with other potential measures considered in the Climate Action Plan. ("A Climate Action Plan for Maine 2004," table on p. 15.)

2) Connecticut Climate Change Action Plan

The Connecticut Climate Change Action Plan 2005 recommendation number 52, "Energy Efficiency and Combined Heat and Power" recommends "a package of energy efficiency and combined heat and power (CHP) measures" as part of a comprehensive set of recommendations. [25] Although cost and reduction

[22] Itron, Inc., "CPUC Self-Generation Incentive Program: In-Depth Analysis of Useful Waste Heat Recovery and Performance of Level 3/3N Systems, Final Report," February 2007. Available from:
http://www.itron.com/pages/news_articles_individual.asp?nID=itr_014829.xml
or directly at: http://www.itron.com/asset.asp?path=support/reports/itr_014971.pdf

[23] Bourgeois, T. and C. Young, "State Experiences with Financial Incentives to Promote Clean Distributed Energy: Greenhouse Gas Reductions with CHP," In Proceedings of the ACEEE 2007 Summer Study on Energy Efficiency in Industry.

[24] "A Report to the Joint Standing Committee on Natural Resources of the Maine Legislature Pursuant to PL 2003 Chapter 237," Department of Environmental Protection December 1, 2004.
Available at: http://maineghg.raabassociates.org/finalplan.asp; accessed 10/2/2006.
See table on p. 15 comparing the cost effectiveness of CHP to other potential measures, and the discussion of CHP (Option #36) p. 75.

[25] Governor's Steering Committee on Climate Change "Connecticut Climate Change Action Plan 2005," January 2005. P. 190. Available at: http://www.ctclimatechange.com/documents/Electricity_CCCAP_2005.pdf

estimates were not valued, the report does state that the CHP policies would have a positive net benefit to the state.

3) New Jersey Clean Energy Program

New Jersey's Clean Energy Program provides incentives to a variety of project types, including energy efficiency, renewables, and CHP. The Combined Heat and Power Program Description lists several program goals, specifically including GHG reduction:

- to reduce overall system peak demand;
- to encourage the use of emerging technologies;
- to use energy more efficiently and reduce emissions of greenhouse gases; and
- to use distributed generation to provide reliability solutions for New Jersey. (2006 Program Report, p. 25)

The program explicitly values the GHG reduction contribution of CHP. The latest program report[26] states:

> CHP projects also reduce greenhouse gas emissions, since they tend to use cleaner technologies that produce fewer emissions than if the electricity was generated by the grid. (2006 Program Report, p. 7)

4) Environment Northeast Climate Change Roadmap for New England and Eastern Canada

The "Energy" chapter of Environment Northeast's comprehensive investigation of policies and practices that could help our region notes the efficiency benefits of CHP and recommends several policy actions to encourage CHP. The potential is large. The most significant single policy proposal for CHP (a portfolio standard) was projected to offer an estimated reduction of 10 to 15 Million Metric Tons of CO_2e, only moderately less than an estimated 20 Million Metric Tons of CO_2e that could result from Renewable Targets and RPS.[27]

E. Existing pollutant trading schemes, such as for NOx Emission Reduction Credits and Allowances, recognize the value of CHP

CHP applications may apply for and receive Emission Reduction Credits (ERCs) that can be used for new and/or expansion projects that require criteria pollutant emission offsets. States are beginning to recognize the potential for smaller-scale CHP in certain applications, (e.g. high efficiency/low emissions CHP replacing aged, inefficient and dirty number 4 or number 6 oil boilers at a site) to serve as a new source of ERCs.

In addition, Emission Allowance programs in MA, CT, and NY all permit the participation of CHP as a part of their Public Benefit Set-Aside (PBSA) allotments in the State NOx Budget Trading programs. New York State and Connecticut have created set-aside allotments for energy efficiency and renewable energy and have included CHP in the definition of eligible technologies and applications. Massachusetts has created a 5% PBSA for energy efficiency and renewable energy that explicitly includes CHP

[26] "New Jersey's Clean Energy Program Report submitted to the New Jersey Board of Public Utilities" issued April 9, 2007 and reporting for January 1, 2006 through December 31, 2006.
Available at: http://www.njcleanenergy.com/html/5library/pdf/BPURpt4Q06Final.pdf

[27] Stoddard, Michael D. and Derek Murrow, Environment Northeast, "Climate Change Roadmap for New England and Eastern Canada" 2006. 240 pages. See pp. 108 – 111 for general discussion, and p. 130 for summary estimate.
Available at:
http://environmentnortheast.org/Publications/ENE%20Climate%20Roadmap/Climate%20Change%20Roadmap%20Energy%20Chapter.pdf. Accessed 13 September 2007

applications. For example please see "Instructions for PBSA NOx Allowances Application" at http://www.mass.gov/dep/air/approvals/aq26.pdf

In September 1998 the US EPA issued a final rule for addressing NOx emissions reductions in a 22 state region in the Eastern U.S. The rule, which is commonly referred to as the NOx State Implementation Plan (SIP) Call, required the development of NOx budgets and mechanisms for allocating these budgets to affected units in each of the states. As part of the program, and as a means of reducing the cost burden of implementing the program, the EPA encouraged the creation of set-asides for renewable energy, energy efficiency and CHP applications that met and exceeded high efficiency, low emissions standards.

State and federal air regulators have recognized that there is a place of CHP applications in market based emission trading programs. High efficiency low emissions CHP has been recognized as a viable means of meeting criteria pollutant emissions reductions targets. States are carrying forward this precedent as they finalize their CAIR (Clean Air Interstate Rule) protocols and procedures.

Massachusetts took a leadership role among the states in creating a 5% Public Benefit Set-Aside, with specific inclusion of CHP applications. In the same manner, we encourage Massachusetts to consider high efficiency, low emission CHP applications as an eligible measure for assisting the State in meeting RGGI goals and objectives in a cost-effective manner

III. CHP Is Already Providing Important Benefits to Massachusetts, and Can Provide Even More

A. Existing CHP in Massachusetts provides benefits now

Massachusetts has a positive and enviable history of industrial CHP utilization, which has already provided significant economic opportunities and jobs. A database of CHP projects kept by EEA[28] lists over 1,880 MW of CHP capacity in Massachusetts.

CHP has provided Massachusetts with economic growth, jobs, clean reliable power, and significant environmental benefits. Given the many advantages of CHP, the large additional potential for heat recovery in the state should be fully harnessed as soon as practicable. The Commonwealth's implementation of RGGI offers an opportunity to solidify support for CHP and to help ensure that CHP provides the greatest possible benefits.

B. CHP opportunities in Massachusetts should be utilized to provide future benefits

A 2006 study of CHP potential in Massachusetts[29] determined that the technical potential for CHP is greater than 4,700 MW at 18,500 sites throughout the state. Although a substantial portion of this opportunity is financially attractive for building owners to install, we must do more to ensure that these benefits are realized. CHP systems can be economically attractive for many building types.[30] Commercial buildings, college campuses, hospital complexes, and government facilities are good candidates for integrated CHP systems. Of these, the largest number of opportunities will be found in commercial and institutional buildings, particularly office buildings, in the relatively small size range of 50 to 500 kWe units. CHP providers and developers will make more investments in such projects, and create more construction/installation jobs in Massachusetts, if RGGI provides incentives that improve the payback

[28] Energy and Environmental Analysis, Inc., an ICF International Company. Available at: http://www.eea-inc.com/chpdata/States/MA.html

[29] Lauren Mattison, "Technical Analysis of the Potential for Combined Heat and Power in Massachusetts" (University of Massachusetts Amherst, Center for Energy Efficiency and Renewable Energy, May 2006). Available at: '*http://northeastchp.org/uploads/Lauren Mattison - Potential for CHP in Massachusetts.pdf*'

[30] This is similar to demand-side energy efficiency, where many economically viable energy efficiency opportunities are not exploited due to a variety of market barriers.

periods for CHP projects, and if RGGI sends a message to the markets (and to the state's electric utilities) that CHP will be an economic and environmental priority.

C. CHP needs support to overcome barriers and provide benefits

Despite the advantages of CHP and the fact that it can be and frequently is a cost effective energy option, numerous barriers, both subtle and specific, restrict its rapid and complete adoption. It is most definitely *not* safe to assume that just because CHP makes sense, it will quickly disseminate through the economy. To achieve the technical potential identified above will require concerted action among numerous state agencies and departments. For example, the Massachusetts Technology Collaborative has been diligently working to solve some of the technical, policy and economic barriers to CHP, including a significant stakeholder collaboration effort and engineering investigations, but its work is ongoing and likely will ultimately result in recommendations for further state action rather than in completed solutions *per se*. Further efforts will almost certainly still be needed.

One of the significant features of CHP is that it provides numerous kinds of value, including the environmental, economic, reliability, and system benefits discussed above. However, very few of these benefits accrue to the project itself. In order to maximize the public benefits of CHP projects, they should receive at least a portion of each type of value that they provide, including reasonable credit for their GHG mitigation achievements.

IV. CHP Merits Strong Support from the Auction Revenues Fund

The NECHPI is aware of and appreciates the stated commitment from Bay State officials to use the CO_2 allowance auction revenues to support public benefit projects such as a new energy-efficiency and peak-management initiative that will include energy efficiency, demand reduction, renewable energy programs, and CHP projects. The stated intention to maximize rate reduction, support the entire electricity system, improve the overall electricity market and lower electric bills for consumers by managing peak electricity demand is laudable.

To maximize the potential value of CHP in this effort, CHP should be integrated into the implementing agency's thinking and planning. CHP works best when it is incorporated into a program design that includes building efficiency improvements and other upgrades, to minimize overall assessment, planning, procurement and construction costs. In the long run isolating CHP as a separated program area reduces its effectiveness, causes duplicated auditing and assessment efforts, and increases overall costs.

CHP has been demonstrated to be a cost effective strategy to accomplish the stated goals of the auction revenues funding. An assessment of California's Small Generator Incentive Program by Itron Inc.[31] shows that CHP incentives can provide a greater reduction of CO_2 per dollar than incentives aimed at other technologies. Although the CO_2e benefit per megawatt is lower for CHP than for renewable generation technologies, the CO_2e per dollar spent is generally greater. A comparison of four states' energy development incentives based on the same assessment methodology indicates that promoting CHP generally is a cost effective way to mitigate GHG emissions, compared to the cost of providing incentives to other generation technologies.[32] Considering the goals of the fund will be to mitigate GHG emissions and provide other benefits to Massachusetts, full integration of and support for CHP is well justified.

V. Massachusetts Should Actively Promote CHP as an Offset Category to Recognize its Thermal Improvements and GHG Reductions

The "next steps" for RGGI implementation call for, among other tasks, offsets implementation, development of additional offset standards, specific offset evaluation tools and ongoing offsets market evaluation. We urge the DEP and DOER to propose rules in this process that will allow at least some

[31] Itron, *supra*. Available at: http://www.itron.com/asset.asp?path=support/reports/itr_014971.pdf
[32] Bourgeois, T., *supra*.

portion of a CHP project's GHG reduction beyond a site's baseline emissions to receive RGGI offset credits.

NECHPI recognizes the important goal of not creating allowances for projects that would be completed in the ordinary course of business, or in other words that are not "additional." We also recognize the need to minimize the administrative burden of RGGI implementation and to avoid complicated compliance procedures or criteria that require individual judgments to verify. Neither the climate nor the CHP industry would benefit from a burdensome process that falsely certified "paper gains" instead of genuine GHG reductions.[33]

A. Potential new offsets should recognize thermal improvements, be strictly verifiable, and not favour chosen technologies over mitigation results

One possible way to recognize the GHG mitigation value of CHP would be to focus any credit the thermal efficiency of CHP, such as the offset boiler emissions of a project, perhaps beyond an established and rising efficiency level keyed to the best commercially installed systems in a given size or market category.[34] Other options include a credit for avoided line losses and other comparative benefits of CHP compared to existing central station facilities, fully accounting for the total on-site efficiency improvements of a CHP system (beyond those due to ancillary fossil fuel efficiency improvements associated with a comprehensive efficiency upgrade), or allowing a portion of CHP generation to be included among the voluntary green power purchases for which some CO_2 credits will be retired.

NECHPI agrees that clear, strict standards are necessary for any offset category to perform its intended function, and would support efforts to fashion rules that are rigorous and unambiguous. Any new offset category should be vetted with the same care as the existing ones. To this purpose, any new evaluation criteria should be performance based and technologically neutral, not favoring any particular technological "means" over the carbon reduction "end."

B. Discrete benefit streams may merit targeted support

The model rule prohibits offset credits from flowing to projects that receive other state support, and the proposed rules follow that example. We recognized the need for a clear identification of projects that would be built anyway, without RGGI benefits. The blanket prohibition is an effective rule of thumb. However, we urge careful consideration of the diverse ways that CHP can help reduce CO_2 emissions separate from other types of benefits that it may provide, and recognition that not all payments that may appear to be "public support" are actually public. Each benefit should be counted individually. For example, future payments from utilities and authorized by the Department of Public Utilities in consideration for a CHP installation's grid support or ability to forestall substation improvements should not automatically preclude credits flowing for thermal improvements that mitigate GHGs.

VI. Clarifications to the Proposed Rule

A. The DEP should clarify that thermal upgrades at existing buildings are not precluded from qualifying for offsets solely because a CHP generator is installed as an additional phase of an end use efficiency project

The most effective and sensible way to implement CHP in existing buildings is to perform a comprehensive efficiency upgrade first, and then, if coincident thermal and electric loads remain, assess

[33] We agree with the preamble to the offsets discussion in the Model Rule that states CO_2 offset allowances should "represent CO_2 equivalent emission reductions or carbon sequestration that are real, additional, verifiable, enforceable, and permanent within the framework of a standards-based approach."

[34] This proposal would be particularly important if our assumption about the intended scope of the prohibition against offset projects that incorporate electrical generation is not correct. See following section.

the option of installing CHP to serve them. Such a comprehensive approach maximizes environmental benefits in two ways. First, it is sensible to reduce loads before meeting them with production. Second, it can allow financing to be bundled, perhaps via a performance contractor, by blending short payback efficiency upgrades to help finance relatively slower return investments such as the capital costs of new windows, or CHP equipment.

From some perspectives a suite of improvements that includes both end use efficiency improvements (such as in heating distribution system upgrades) and a CHP system that generates electricity may be considered one project. However, in reality they are two distinct sets of efficiency improvements that are coordinated to maximize overall benefits.

With respect to the fourth proposed offset category ("reduction or avoidance of CO_2 emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency") the proposed rule does not adequately clarify that the existence of a CHP prime mover may be ignored when crediting end use thermal energy conservation measures (ECMs). The potential implementation of end use ECMs, such as the proper sizing and commissioning of heating systems, energy management systems, and measures that improve the thermal performance of the building envelope, etc., should not be compromised due to uncertainty about whether installing on-site generation as an additional part of the improvement package would disqualify them from receiving offsets. If an energy consultant recommends significant HVAC upgrades that would otherwise qualify as an offset, it would be very unreasonable disallow them solely because on-site CHP generation were installed under the same performance contract.

The rules do not seem clear on this point. In § (10) 4 [General additionality requirements], subpart b states:

> CO_2 offset allowances shall not be awarded to an offset project that includes an electric generation component, unless the project sponsor transfers to the Department or its agent legal rights to any and all attribute credits (other than the CO_2 offset allowances that would be awarded under 310 CMR 7.70(10)(g)) generated from the operation of the offset project that may be used for compliance with a renewable portfolio standard or other regulatory requirement

Depending on the reader, this subsection seems to preclude credit for any project that has associated CHP. However, the definition of "offset project": at 310 CMR 7.70(1)(b) states;

> An offset project includes all equipment, materials, items, or actions directly related to the reduction of CO_2 equivalent emissions or the sequestration of carbon specified in a consistency application…. Equipment, materials, items, or actions unrelated to an offset project reduction of CO_2 equivalent emissions or the sequestration of carbon, but occurring at a location where an offset project occurs, shall not be considered part of an offset project, unless specified at 310 CMR 7.70(10)(e).

Assuming that the proposed rules presume on-site generation is unrelated to measures in this offset category, then this definition seems to allow the crediting of the non-generating efficiency ECMs—by definition the generation would not be part of the "project." We believe that something like this is what the rules intend, and that thermal usage improvements can qualify for offset credits regardless of the chance existence of CHP. Language should be added to clarify this intent.

Clarification in this manner would neither support nor impede the possibility of a future new offset category that credits the efficiency of the CHP prime mover, generator and heat recovery system.[35] As

[35] As argued above in §V, NECHPI does advocate the eventual creation of an offset that calculates CHP benefits in their entirety, but this proposed clarification is not intended to create any new offset. Here our intention is simply

long as the electrical generation component of a suite of efficiency improvements is not included in the carbon mitigation calculation, the proposed exclusion of electric generation at (10), 4, subpart b would not be violated. The proposed rules already contemplate this sort of calculation, at § 4. e. subpart ii "isolation of applicable energy conservation measure." This subpart calls for separately calculating the impact of ECMs or accounting for interactions among them, as appropriate.[36] As long as the seven ECMs listed in 4 a i are appropriately verified, the apparent intent of the proposed rule would remain preserved and we can leave for another day the complex questions of how to accurately account for the improved on-site generation efficiencies.

B. The definition of "Market Penetration" should clearly authorize consideration of varying sub-sectors within the same market.

The proposed definition of "Market penetration rate" at should be clarified to explicitly allow the DEP to consider specific segments of a market, in the event that the language allowing "the Department [to] determine an appropriate market definition" does not already contemplate such authority.[37] Certain types of efficiency measures have been more readily adopted by industrial than commercial customers, for example, or by specific industries or customer sizes. Thus, separate analyses may be appropriate for industrial, commercial and residential applications of a given ECM type.

It is difficult to know a "potential" market size, particularly considering the nascent availability of new technologies such as micro CHP, novel chillers, or innovative new strategies to offset boiler emissions. As just one example, separate market analysis of thermal chilling by customer type may be appropriate, and particularly justified, considering the large peak electric impacts

VII. Summary of Recommendations and Conclusion

Considering the significant potential value of CHP in helping Massachusetts successfully implement its RGGI goals, NECHPI urges both the DEP and DOER to keep in mind the many cost effective benefits CHP can offer. CHP requires greater policy support to allow private investors to capture some share of the public benefits they provide. In particular with respect to the potential for GHG mitigation we urge full inclusion of CHP in the programs funded through the auction revenues, strong support for fair and accurate inclusion of CHP as a future offset category, and specific attention to thermal efficiency so that the proposed rules encourage greater realization of this category of mitigation.

On behalf of the Northeast CHP Initiative
and its Executive Committee,

Chris Young
C_Young1@att.net

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to promote better thermal efficiency design and implementation, without inadvertently creating a perverse incentive that unintentionally discourages CHP.

[36] The text reads: In calculating both baseline energy usage and energy savings, the applicant shall isolate the impact of each eligible energy conservation measure (ECM), either through direct metering or energy simulation modeling. For offset projects with multiple ECMs, and where individual ECMs can affect the performance of others, the sum of energy savings due to individual ECMs shall be adjusted to account for the interaction of ECMs[0].

[37] Definition in 7.70: Massachusetts CO_2 Budget Trading Program (10). "Market penetration rate. A measure of the diffusion of a technology, product, or practice in a defined market, as represented by the percentage of annual sales for a product or practice, or as a percentage of the existing installed stock for a product or category of products, or as the percentage of existing installed stock that utilizes a practice. The Department may determine an appropriate market definition and market penetration metric for a category of technology, product or practice, and may issue guidance specifying the technologies, products or practices that meet a specified market penetration rate."

Northeast Regional Greenhouse Gas Coalition

TO: Nicholas Bianco, Massachusetts Department of Environmental Protection

Transmitted via email to Nicholas.M.Bianco@state.ma.us

cc: Robert Sydney, Massachusetts Division of Energy Resources

FROM: Northeast Regional Greenhouse Gas Coalition[38]

DATE: September 24, 2007

RE: **Comments on Proposed RGGI Regulation**

Introduction

This memo provides the Northeast Regional Greenhouse Gas Coalition's (GHG Coalition) comments on Massachusetts Department of Environmental Protection's (MA DEP) proposed RGGI regulation (310 CMR 7.70).

The GHG Coalition members have participated as official stakeholders to the RGGI process since its inception, participating in every RGGI meeting and workshop and submitting consensus recommendations throughout the entire process. See www.ghgcoalition.com/resources for comments submitted to the RGGI process to date.

The GHG Coalition believes that programs to address climate change should be national in scope. The objective of the GHG Coalition throughout the RGGI process has been to provide recommendations so that RGGI could serve as a model for a national program that would have a reasonable likelihood of adoption. Thus, it is essential that the RGGI implementing rules avoid potential parochial barriers and instead incorporate program elements that can be easily implemented at the national scale. In addition, the GHG Coalition strongly contends that when a mandatory national climate change program is implemented, the RGGI program must be superseded with a smooth transition for RGGI affected sources and related programs. The regulatory elements of the RGGI program (including implementing regulations at the state level) must be superseded by the national regulatory program so as not to have redundant and possibly conflicting programs.

The GHG Coalition's comments on the MA DEP proposal focus on the following issues: 7.29 transition,

[38] The GHG Coalition members are BP America, Inc.; Conectiv Energy; Consolidated Edison, Inc.; Constellation Energy; Dominion Energy New England; Public Service Enterprise Group, Inc.; and Waste Management, Inc.

the timing of allowance allocations to DOER, the definition of biomass, the effective date of the RGGI regulations, and waiver of enforcement; suspension of compliance obligations.

7.29 Transition

The GHG Coalition is pleased to see that MA DEP is proposing to sunset 7.29 and transition to RGGI. This sets a positive precedent for the transition that should occur when a national program is ultimately adopted. The GHG Coalition has long held that RGGI should transition to a national program so that electric generators in the RGGI states are not put at a competitive disadvantaged and so that there is a single GHG emissions trading scheme in the U.S. However, the 2:1 discount for GHG credits that MA DEP is proposing is contrary to development of a national cap and trade program. Such a policy would also discriminate against offset projects that meet all the key criteria for an environmentally beneficial project, such as real, measurable, verifiable GHG reductions.

Timing of Allowance Allocations to DOER

The MA DOER proposed regulations state that the first auction will be held 60 days after the first CO_2 allowance allocation from MA DEP. However, the MA DEP proposed language does not contain a timeline for allocations to DOER except that they will occur by January 1, 2009.

The GHG Coalition encourages Massachusetts to hold its first auction as early in 2008 as feasible to aide in price discovery for 2009 RGGI allowances. Because CO_2 Budget Sources primarily sell power through multi year bilateral contracts, it is imperative to know what the CO_2 allowance prices will be so they can be factored into power prices. As such, the GHG Coalition recommends that MA DEP clearly indicate in the regulatory language when the allowances will be allocated to DOER for the 2009-2012 vintage years.

Definition of Biomass

The definition of biomass in the MA DEP proposed rule mirrors that of the RGGI Model Rule. The GHG Coalition has noted numerous times that the biomass definition is too restrictive and eliminates many beneficial fuel switching opportunities at CO_2 Budget Sources. One of the main goals of RGGI should be to reduce the carbon intensity of the region's power supply. One way this can be accomplished is through the co-firing of biomass. As such, the definition of biomass should be revisited to be more flexible or at least coincide with the MA DOER definition of renewables for the Massachusetts RPS program.

Triggers for other states to enact RGGI

The GHG Coalition suggests that MA DEP insert a trigger provision for the effective date of its RGGI regulation similar to that contained in the ME DEP proposed RGGI regulations (*Chapter 156, CO_2 Budget Trading Program*). According to the proposed regulation, ME DEP's RGGI regulation becomes effective only when other states meeting the following criteria have initiated comparable CO_2 budget trading programs:

(a) such states have wholesale electricity markets that are administered and overseen by the same Regional Transmission Organization as are Maine's; and

(b) the combined CO_2 emissions budgets from such states total at least 35,000,000 tons per year.

Massachusetts should include the same concept in its RGGI regulation but make the effective date of the regulation tied to all New England states adopting RGGI regulations.

Waiver of enforcement; suspension of compliance obligation

The ME DEP has also proposed regulations providing the authority to the DEP Commissioner to waive or suspend compliance obligations for CO_2 Budget Sources if there are high allowance prices or if issues not under the control of the Budget Source occur. The GHG Coalition encourages MA DEP to review this proposed regulation (*Chapter 157, CO_2 Budget Trading Program Waiver and Suspension*) and add similar provisions in the MA RGGI regulations.

We look forward to continued participation in the Massachusetts RGGI process and thank you for this opportunity to provide input.

NRG Energy Inc.

September 24**,** 2007
Mr. Nicholas M. Bianco
Department of Environmental Protection
One Winter Street, 6th Floor
Boston, MA 021 08
Dear Mr. Bianco:

NRG Energy, Inc, on behalf of its Somerset Station, submits comments on the Department of Environmental Protection's ("Department" or "DEP") proposed amendments to the C02 regulations contained in 310 CMR 7.29, "Emissions Standards for Power Plants", and 310 CMR 7.00: Appendix B "Emission Banking, Trading, and Averaging", and the proposed new section 310 CMR 7.70, "Massachusetts C02 Budget Trading Program". Section 310 CMR 7.70 is being proposed to implement the Regional Greenhouse Gas Initiative ("RGGI").

NRG is an active participant in the US Carbon Action Partnership ("USCP") and the Chicago Climate Exchange ("CCX"). Our national development plans incorporate the consideration of C02 emissions including the proposed plasma gasification project at our Somerset Station.

We support the enactment of a single, mandatory, nationwide market-based system to regulate C02 and other greenhouse gases. A well-designed national program will produce substantial reductions in greenhouse gases, foster the creation of new C02- reducing technologies, and encourage the development and installation of new, efficient, low C02 emitting generation - without drastically increasing power prices or otherwise harming consumers and the economy.

Since a national program does not yet exist, it is important that the implementation of RGGI in Massachusetts meet the goals of reducing C02 emissions and maintaining thefuel diverse, cost sensitive electric generating system for the region. In addition, RGGI must not be seen in the microcosm of the Northeast United States but rather as a testbed for a national program. For these reasons, it is important that the revisions that we recommend are accepted and implemented by the Department. Similarly, our comments on the DOER'S proposed allowance auction regulations must also be considered with a larger perspective in mind.

Our comments to the Department concentrate on the transition from 310 CMR 7.29 to RGGI, the definition of Eligible Biomass, the creation of Early Reduction Allowances, and the use of C02 allowances.

In addition, a key to the successful implementation of RGGl within the Commonwealth is a well designed and managed program to auction the RGGl allowances. A copy of our comments to the Department of Energy Resources on their proposed regulations, 225 CMR 13.00, "DOER COz Budget Trading Program Auction Regulations" is included with this letter.

If you have any questions regarding our submittal or require additional information, please contact me at **cvnthia.karlic@nrctenerav.com** or at (860) 343-6962.

Very truly yours,

NRG ENERGY, INC.
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NRG Energy, Inc.

Comments on the MA DEP's Proposed Revisions to 310 CMR 7.29 - Emission Standards for Power Plants and Proposed New 310 CMR 7.70 – Massachusetts CO2 Budget Trading Program

Introduction

NRG Energy, Inc. ("NRG") is a leading wholesale power generation company, primarily engaged in the ownership and operation of power generation facilities and the sale of energy, capacity and related products in the United States and internationally. In the states participating in the Regional Greenhouse Gas Initiative ("RGGI"), NRG owns just over 7,700 MW or a little over 8% of the installed fossil-fired generation.

In Massachusetts, NRG owns and operates Somerset Station ("Somerset"). The emission unit at Somerset that will be affected by RGGI is our steam electric generating boiler ("Unit 6") which produces enough steam to power a 115 MW generator/turbine. Unit 6 primarily combusts coal but has the capability to use a limited amount of No. 6 oil and natural gas.

The Department has recently issued a draft Conditional Approval for Unit 6 to convert it to a synthetic gas ("syngas") fired boiler. The syngas will be produced through a plasma gasification process, which is an innovative and clean use of coal, as well as biomass.

Our comments reflect the current operations of Unit 6 as well as our future operations with plasma gasification.

Overview

NRG supports the enactment of a single, mandatory, nationwide market-based system to regulate CO2 and other greenhouse gases. A well designed national program will produce substantial reductions in greenhouse gases, foster the creation of new CO2reducing technologies, and encourage the development and installation of new, efficient, low CO2 emitting generation – without drastically increasing power prices or otherwise harming consumers and the economy.

Since a single, nationwide policy does not exist, the Commonwealth of Massachusetts and other RGGI member states should be commended for taking action. There are, however, significant challenges to regional regulation of emissions with global impacts. Any such initiatives must be designed with great care in order to achieve the goal of stabilization and reduction of carbon emissions with an acceptable cost to the state's economy, consumers and vital industries.

NRG submits comments on aspects of the Department of Environmental Protection's ("DEP" or "Department") proposed revisions to 310 CMR 7.29 and the proposed new regulations implementing RGGI, 310 CMR 7.70. These new proposed regulations establish the CO2 Budget Trading Program ("MA RGGI").

The aspects are:

1. Transition from the CO2 requirements of 310 CMR 7.29 to the CO2 Trading Program, 310 CMR 7.70,
2. Trust Trigger Price and use of the GHG Expendable Trust,
3. Trigger mechanism for the implementation of 310 CMR 7.70,
4. Definition of Eligible Biomass,
5. Creation of Early Reduction Allowances,
6. Conversion of Massachusetts Greenhouse Gas ("GHG") credits to RGGI offsets,
7. Creation of an additional of Carbon Offset category, and

8. Transition from RGGI to a national carbon program.

Finally, we offer recommendations on the need for a bridge between the Department's actions on the proposed MA RGGI regulations and the DOER's proposed use of allowance auction revenues to promote innovative, clean technology within the Commonwealth.

Transition from 310 CMR 7.29 to 310 CMR 7.70

The Department proposes a transition from the CO2 portion of 310 CMR 7.29, Emission Standards for Power Plants ("7.29"), to MA RGGI implemented as 310 CMR 7.70.

NRG supports the Department's proposal to establish one regulation governing CO2 emissions, rather than maintaining the existing 7.29 regulations along with the new MA RGGI. As the Department states in its Technical Support Document to the proposed revisions, the adoption of the MA RGGI regulations can

• Reduce the long-term costs of addressing climate change.
• Capture environmental co-benefits.
• Drive new technology.
• Promote expanded energy efficiency. and
• Stimulate economic development.

In addition, as we stated in our comments on 7.29, dated March 6, 2006:

If the state does become a signatory and implements the requirements of RGGI then, the provisions of 7.29 should be specifically structured to automatically "sunset" on the effectiveness of RGGI. Broadly-based emission reduction programs driven by market dynamics have been shown to be most efficient in achieving significant reductions, compared with individual state regulations. Lower costs can be achieved by implementing such programs (ideally on a national basis), rather than state-by-state programs. Additionally, since carbon emissions, as stated in the Technical Document, are a global issue, the wider ranging the program, the more efficient and effective the program will be. Massachusetts may actually see more significant reductions in carbon emissions as part of a larger program than will be seen with just 7.29.

Trust Trigger Price and Use of GHG Expendable Trust

The current version of 310 CMR 7.00, Appendix B (7)(d)5 contains the mechanism for an affected source to make payments into the GHG Expendable Trust ("Trust") at the price established in the regulations. The proposed revisions to the Appendix omits Subsection 5. We believe this is an oversight on the part of the Department and it is not the Department's intent to eliminate this compliance option. The Department should verify that this was an oversight.

In addition, the Department should amended Subsection 5 to agree with the proposed year 2008 true-up period compliance date of September 1, 2009. The existence of the Trust is a critical compliance option in the 7.29 CO2 regulations. We are diligently working on obtaining GHG credits that can be used for 7.29 compliance. However, for various reasons, there appears to be a limited supply of these credits. Without the ability to use the Trust, affected sources may be forced to limited its operations to just that time period that could be covered with GHG credits.

Trigger Mechanism for Transition from 310 CMR 7.29 to 310 CMR 7.70

While we support the transition from 7.29 to MA RGGI, we are concerned about the implementation of the MA RGGI program. The potential regional CO2 reductions and other benefits as stated by the

Department in the Technical Document will only occur if all the Signatory States to the RGGI MOU have final regulations in place with an effective date of January 1, 2009.

If Massachusetts is the only or only one of a handful of states with a functioning RGGI program on January 1, 2009, this program will be nothing more than an expansion of the 7.29 program, just with more participants, and a potential higher cost. That is, not only will the potential benefits of RGGI not be realized, but also the potential higher costs associated with the program (both in terms of the price of allowances and offsets as well as administrative costs) will greatly outweigh the reduced benefits.

We recommend that the MA RGGI regulations only go into effect on January 1, 2009 if, by the date of the first planned CO2 allowance auction: (1) all of the states within ISONE have final RGGI regulations, and (2) states that comprise 75% of the RGGI allowances have final RGGI regulations, including Massachusetts.

For the Department to implement the MA RGGI regulations while other New England states have not will only serve to place an economic burden on the generating resources and the consumers in Massachusetts. There are three load (pricing) zones with Massachusetts – Western Massachusetts, Northeast Massachusetts – Boston ("NEMA-Boston"), and Southeast Massachusetts ("SEMA"). Allowance adders built into the variable cost for only Massachusetts generators will create generally higher prices from the in-state generators. This leads to two plausible outcomes. First, if the in-state generators are less completive due to a MA RGGI allowances adder, with all other things being equal, Massachusetts will begin importing power from other areas at potentially higher prices than otherwise may have been produced in-state without the MA RGGI adder. The other outcome is that when the in-state units are turned on, they will be the most expensive units in the same class (coal-to-coal, combined cycle-to combined cycle), and will thus set higher prices within the load zone. Either outcome will result in higher costs borne by the consumers in Massachusetts.

If the trigger is not reached by January 1, 2009, Massachusetts is still protected since the CO2 standards contained in 7.29 would remain in effect.

If Massachusetts feels compelled to implement MA RGGI without these considerations, DEP must ensure that generating sources within the Commonwealth are not financially harmed in comparison to those out-of-state sources that are not regulated by a similar RGGI program.

To that end, we suggest that:

1. DEP issue to the in-state regulated sources sufficient RGGI allowances in an amount equal to their historic three-year CO2 emissions, or
2. DOER limits participation in the CO2 allowance auction to only sources within Massachusetts, or
3. DOER limits participation in the CO2 allowances auction to only sources in a state with a functioning and comparable set of RGGI regulations.

Definition of Eligible Biomass

The Department should expand the definition of Eligible Biomass to include all wood based feedstocks that have received a Beneficial Use Determination ("BUD") from the Department or certification as a Renewable Energy Credit fuel ("REC fuel") from the Department of Energy Resources ("DOER") and are used in a plasma gasification process. This expansion is justified based on several factors including the superior destruction capability of the gasification system, the overly narrow definition of Eligible Biomass, the Beneficial Use Determination standards contained in the Department's Solid Waste regulations, the broader definition of Eligible Biomass Fuel contained in the Department of Energy Resources RPS regulations, and the current situation faced by the Commonwealth due to limited disposal options for wood based products. These factors are discussed below.

Plasma Gasification

Plasma Gasification technology is the process of using plasma torches to create a high temperature zone inside a cupola to gasify organic feedstocks into synthetic gas. Each cupola, or gasifier, consists of a steel and ceramic shell with attached plasma torches (typically six per cupola) that will create and inject a very high temperature plasma zone in the bottom of the cupola. The plasma torches create an electric arc between two probes that ionizes the air between them to the high energy and temperature state called plasma. Air (air blown or oxygen enriched) blows through the plasma torches heating it to approximately 10,000 oF converting the air to a plasma state. This plasma is injected into the gasification bed that will operate at approximately 6,000 oF. Up to 10% of the heat input to the gasifier is in the form of metallurgical coke, which establishes a bed of carbon at the bottom of the gasifier to support the gasification zone of coal and/or biomass gasification feedstocks. The gaseous stream rises to the top of the cupola almost completely dissociating the feedstock (coal, biomass and coke) into two streams: gaseous organic material and inorganic liquid (melted ash). Limestone is fed to the gasifiers as needed to flux the liquid slag; however it is otherwise an inert material. The main combustible constituents of the syngas (which would be used in a boiler) consist primarily of carbon monoxide (CO) and hydrogen (H2). The inorganic liquid stream is an inert vitrified mineral slag consisting of melted ash constituents. The vitrified mineral slag will be maintained in a hot molten state and will be drained via a port on the bottom of the cupola to a water quench, where it will harden and shatter to an inert solid material similar to crushed glass.

The process is not a combustion process that could result in incomplete combustion of the feedstock or the emissions of metal, inorganic material and/or organic material to the atmosphere. Rather, plasma technology represents a means to achieve the complete dissociation of the feedstock into elemental synthetic gas.

In the recently issued draft Conditional Approval for the plasma gasification project at our Somerset Station, the Department proposes to allow up to 35% of the annual feedstock to be "…biomass feedstocks consisting of wood, wood chips, agricultural solid products, and/or other biomass derived feedstock [nonrecyclable paper (paper cubes) and/or processed construction and demolition derived feedstock, etc.] approved by the Department through a Beneficial Use Determination pursuant to 210 CMR 19.060." In fact, the Department states that the project does "…have the potential for an overall reduced CO2 footprint in so far as it proposes to use certain biomass (renewable) feedstocks in place of coal (fossil fuel)."

The problem then is this: while the plasma gasification process with biomass is an effective process to reduce overall CO2 emissions, the narrow definition of Eligible Biomass contained in the proposed MA RGGI regulations eliminates an incentive to use biomass as a feedstock for the plasma project.

Eligible Biomass Definition

The proposed regulations include a potentially overly narrow definition of Eligible Biomass as including "…sustainably harvested woody and herbaceous fuel sources that are available on a renewable or recurring basis (excluding old-growth timber), including dedicated energy crops and trees, agricultural food and feed crop residues, aquatic plants, unadulterated wood and wood residues, animal wastes, other clean organic wastes not mixed with other solid wastes, biogas, and other neat liquid biofuels derived from such fuel sources." At this time, the Department has not proposed a definition or standard for "Sustainably Harvested".

This definition is the same definition contained in the RGGI Model Rule. But, there is not a binding agreement that the Department must use this definition. While a narrow, limited definition may be

acceptable in a Model Rule, the Department must consider the negative aspects of using this Model Rule definition in practice in Massachusetts. Clearly, this Model Rule definition was written with the assumption that Eligible Biomass would only be used in a traditional combustion system with limited destruction and clean-up capability. In contrast, the innovative plasma gasification technology offers a superior method to handle biomass.

As shown above, the biomass feedstocks proposed in the draft Conditional Approval for Somerset is more expansive and acknowledges the large emissions control benefit of biomass being used in the plasma technology. NRG has presented a project to the Department that would be capable of handling all types of biomass. However, this innovative project has a higher price tag than traditional fossil fuel combustion generation. The Department should look to regulate projects that are beneficial to both the environment and energy policies in the Commonwealth in a manner that would give an incentive towards their development rather than a disincentive. The incentive in this case would be an expansion of the Eligible Biomass definition to include wood based feedstocks that have received a BUD or REC fuel certification and are used in a plasma gasification process so that emissions derived from biomass are not included in the calculation of CO2 emissions and therefore, RGGI allowances. RGGI was intended to regulate CO2 emissions from fossil fuel fired units, not clean units burning synthetic gas derived from biomass. If DEP intends to interpret the proposed definition of Eligible Biomass to include BUD/REC fuels, then it should so clarify this in response to comments.

Beneficial Use Determination

The Department's Solid Waste regulations contain a subsection detailing the process for and determination to issue a Beneficial Use Determination ("BUD") for a solid waste. The BUD categorizes the waste as not being a solid waste if it is determined by the Department to have a beneficial use. The process for obtaining a BUD for a waste involves a showing that the waste and its proposed re-use "…are beneficial and pose an insignificant potential hazard to public health, safety, to the environment." In addition, the proposed re-use cannot result in an increase in the environmental concentrations of any critical contaminants of concern, including persistent, bioaccumulative toxins and any other priority chemical pollutants identified by the Department. Required BUD filings have not yet been made for the wood based feedstocks proposed for the plasma gasification process. Once the BUD certification is obtained, the material is deemed clean and safe. For purposes of the plasma gasification process, there is virtually no environmental difference between using "Eligible Biomass" as proposed by the regulations or wood based feedstocks that have received a BUD.

RECs and the RPS

Not only is the MA RGGI definition of Eligible Biomass overly narrow, but also it is inconsistent with existing definitions of Biomass found in DOER regulations. The current DOER rules define an Eligible Biomass Fuel to include: "Fuel sources including brush, stumps, lumber ends and trimmings, wood pallets, bark, wood chips, shavings, slash and other clean wood that are not mixed with other solid wastes; agricultural waste, food material and vegetative material as those terms are defined, or may subsequently be defined, by the Department of Environmental Protection at 310 CMR 16.02; energy crops; biogas; organic refuse-derived fuel that is collected and managed separately from municipal solid waste; or neat biodiesel and other neat liquid fuels that are derived from such fuel sources." This definition has a wider range than the Eligible Biomass definition contained in the RGGI regulations. DOER is currently considering adding clean construction and demolition waste as an Eligible Biomass Fuel.

The DOER definition acknowledges the existence of differing types of biomass that can be used to meet its Renewable Portfolio Standards ("RPS"). A designation of a fuel to meet the RPS standards is another method that the Department can use to expand the definition of Eligible Biomass.

Solid Waste Disposal Limitations within the Commonwealth

Within the Commonwealth, there is a ban on the landfill disposal of wood based products. The Frequently Asked Question document prepared by the Solid Waste Division contains a table of the primary reuse/recycling market for various materials that cannot be landfilled. Under the heading of Wood, which is defined a “Treated and untreated wood, including wood waste”; the primary reuse is listed as “With a Beneficial Use Determination, wood can be used as a component of alternative daily cover or grading and shaping materials at landfills. In addition, wood has been used in the permitted energy recovery facilities outside of Massachusetts.” This has resulted in a glut of such products, and a shortage of in-state options to handle these products.

As previously discussed, the plasma gasification process provides a superior environmental option for the re-use of these products as a fuel source. Further, plasma gasification provides for the complete disassociation of the material, unlike the use of the material as daily cover or the use of the material at an out-of-state combustion facility. The use of the wood based products in the gasification process is a better, less polluting outcome than either of these methods.

Adding wood based feedstocks used in a plasma gasification process to the definition of Eligible Biomass would help ensure that this superior process is one step closer to fruition and would provide the benefits to the Commonwealth.

New York State Consideration of Biomass

The New York State Public Service Commission (“NYPSC”) has evaluated the definition and use of biomass as part of establishing it retail renewable portfolio standard (Case 03-E-0188). The NYPSC issued its document “Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard”, effective September 24, 2004, which states on page 41,

The use of adulterated forms of wood, such as plywood and particleboard, as a feedstock for any one of the thermochemical platforms discussed above would be expected to be an environmentally beneficial alternative to the disposal of waste plywood and particleboard, assuming it could not otherwise be practicably recycled, in landfills. Therefore, plywood and particleboard may not be used as feedstock for direct combustion under the RPS program due to our concerns about emissions, but may possibly be converted into biogas or liquid biofuel.

This consideration and decision show that wood based feedstocks, such as those being contemplated for Somerset Station can and should be considered as Eligible Biomass under MA RGGI.

Attached is the hyperlink to the entire document.

Proposed Wording
The proposed definition of Eligible Biomass should either (a) be confirmed by DEP to be broad enough to include wood-based feedstocks receiving BUD/REC approval; or (b) be amended to read “sustainably harvested woody and herbaceous fuel sources that are available on a renewable or recurring basis (excluding old-growth timber), including dedicated energy crops and trees, agricultural food and feed crop residues, aquatic plants, unadulterated wood and wood residues, animal wastes, other clean organic wastes not mixed with other solid wastes, biogas, and other neat liquid biofuels derived from such fuel sources. In addition, wood based feedstocks used in a gasification process for which a Beneficial Use Determination under 310 CMR 19.060 or an Eligible Biomass Fuel designation from the DOER, shall be considered Eligible Biomass for the purposes of these regulations.

Creation of Early Reduction CO2 Allowances

Proposed 310 CMR 7.70(5)(c)2, Early Reduction CO2 Allowances, permits the issuance of early reduction CO2 allowances ("ERAs") for RGGI-eligible sources whose CO2 emissions or rate for years 2006 – 2008 inclusive is lower than the CO2 emissions during the Baseline Period of 2003 – 2005. NRG agrees with the Department's proposal to issue ERAs. Companies that can and do take early actions to lower their CO2 emissions, such as an increase in the use of lower CO2 emitting fuel, are recognizing through these actions the issue of CO2 emissions and, accordingly, should
be rewarded for their actions.

Conversion of MA GHG Credits to RGGI Offsets
The Department proposes to revise 310 CMR 7.00 Appendix B(7) to address the exchange of state GHG credits to MA RGGI allowances. Specifically, in Subsection (h), the Department will allow GHG credits that were derived from a project other than an offset project type listed in the proposed 310 CMR 7.70(10) to be exchanged for MA RGGI allowances at the rate one MA RGGI allowance for every two GHG credits. GHG credits eligible for the exchange will only be those for which an administratively complete application for certification has be submitted by February 1, 2008 however, the credits can be created through December 31, 2012. The Department intends to set aside approximately 1 % of its CO2 allowances (266,602 allowances) for this exchange program.

Conversely, projects eligible for RGGI CO2 offset allowances may apply for either GHG credits or CO2 offset allowances ("Eligible Project"). But, the GHG credits from these projects cannot be converted to MA RGGI allowances. This position of allowing non-eligible projects to receive MA RGGI allowances while eligible projects cannot, is counterproductive and will disadvantage companies looking at carbon reducing projects in the larger regional and national stage. This is mainly based on the fact that the use of carbon offsets are limited by MA RGGI, and the use of carbon allowances are not.

Sources within the Commonwealth that are regulated by 7.29 must not only consider the CO2 affects of its operations but, must also consider compliance with the SO2, NOx, and mercury limitations of 7.29. Therefore, 7.29 affected sources must project its operations and the resulting fuel use based on all the pollutants covered by 7.29. The fuel strategy would consider the cost of SO2 allowances and GHG credits, if that is the planned strategy. This means that companies must now be procuring GHG eligible credits for certification by the Department. With the emphasis on RGGI, credits that fall under both the 7.29 and RGGI offsets requirements may be more plentiful (and more cost effective) than GHG credits that cannot be used in a RGGI program.

However, fuel prices are greatly affected by national and international actions. All fuel prices (coal, oil, and natural gas) are affected by actions such as international demand, weather conditions, and market speculation, and we have seen fluctuations in fuel prices (both up and down) as a result of such actions.

So, today's fuel strategy based on future projected fuel cost and compliance with all aspects of 7.29 can be changed over the next several months based on actions beyond the control of a source operator. If prices of lower emitting SO2 and carbon fuels, such as natural gas, were to be lower than the projected costs then, it would be advantageous for that sources owner to use the lower price fuel. But, if the source has a supply of GHG credits from an Eligible Project and knowing that the future use of these credits under MA RGGI is limited to 3.3% of total CO2 emissions (or higher if the trigger prices are reached), a source may choose to "use up" it supply rather than speculate on the future use of these credits as offsets. While this may go against the goal of lowering CO2 emissions, a source must also consider the financial ramifications of its operations.

To eliminate the potential disadvantage to sources who procure GHG credits from Eligible Projects, we recommend that the Department:

1. Convert the GHG credits from Eligible Projects to MA RGGI allowances, useable by any source in a state with a RGGI program, or
2. Allow the use of the GHG credits from Eligible Projects as MA RGGI offsets but, exclude them from the calculation of the 3.3% offset use. In effect, this would recognize the quality of the GHG credits and allow a source to have a higher use of offsets as part of its MA RGGI compliance strategy.

Create an Additional of Carbon Offset Category

Section 310 CMR 7.70(10) lists the requirements for the creation of carbon offsets ("offsets"). The Department states that offsets would be awarded to projects "… that have reduced or avoided atmospheric loading of CO2 or, CO2 equivalent, or sequestered carbon as demonstrated in accordance with the applicable provisions of 310 CMR 7.70(10). The requirements of 310 CMR 7.70(10) seek to ensure that CO2 offset allowances awarded represent CO2 equivalent emission reductions or carbon sequestration that are real, additional, verifiable, enforceable, and permanent within the framework of a standards-based approach. Subject to the relevant compliance deduction limitations of 310 CMR 7.70(6)(e)1.c., CO2 offset allowances may be used by any CO2 budget source for compliance purposes."

Under the proposed regulations, there are only five categories for offset creation:

1. landfill methane capture and destruction;
2. reduction in emissions of sulfur hexafluoride (SF6);
3. sequestration of carbon due to afforestation;
4. reduction or avoidance of CO2 emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency; and,
5. avoided methane emissions from agricultural manure management operations.

Offsets can be a cost effective means for a source to comply with RGGI, and the Department should continue its work, either with the RGGI Working Group or separately, on expanding the categories for offsets. We have strongly requested that the Department revise the proposed definition of Eligible Biomass to include BUD or REC approved wood based feedstocks used in a plasma gasification process due to the environmental and economic benefits that this use can provide. If the Department does not incorporate this expanded definition into the final MA RGGI regulations, we recommend that the Department pursue an offset category involving the use of such wood based feedstocks used in a gasification process.

Transition from MA RGGI to a National Carbon Program

NRG supports a national carbon program. In absence of such a program, the RGGI program was initiated, with Massachusetts as a signatory to the MOU. When a national program is implemented, the provisions of MA RGGI should expire upon the effective date of a national program. The Department has set the standard for this transition with their proposed transition from 7.29 to MA RGGI.

Bridge between DEP's MA RGGI Decisions and DOER's Use of Allowance Revenues

NRG has offered recommendations to the Department for revisions to the MA RGGI program, so that innovative clean technologies such as our proposed plasma gasification project receive the benefits of the project. Absent the Department incorporating our recommendations of the revision to the Eligible Biomass definition and/or an offset category for the use of wood based feedstocks in a gasification project, the Department must work with the DOER to insure that revenues from the allowances auction are available to innovative technologies. Both Departments must realize that based-loaded generation will

still be required within the Commonwealth and a project that offers an environmental sound and energy reliable means to have that generation should be encouraged rather than discouraged.

ATTACHMENT 1 – BIOMASS DEFINITION

New York State Public Service Commission - Definition of Eligible Sources of Biomass (from Appendix B, page 4 of NYPSC Proceeding for Case 03-E-0188)

Agricultural Residue
Woody or herbaceous matter remaining after the harvesting of crops or the thinning or pruning of orchard trees on agricultural lands. Agricultural by-products such as leather and offal and food processing residues that are converted into a biogas or liquid biofuel.

Harvested Wood
Wood harvested during commercial harvesting. The supplier must have and be in compliance with a current Forest Management Plan prepared by a professional forester that includes (a) standards and guidelines for sustainable forest management that require adherence to management practices which conserve biological diversity, maintain productive capacity of forest ecosystems, maintain forest ecosystem health and vitality, and conserve and maintain soil and water resources; (b) a harvest plan following production and harvest standards based on best management practices set forth in guides developed, tested and peer reviewed for USDA and USDOE; (c) the monitoring of harvest operations by a professional forester; (d) the reporting of harvest operations by a professional forester; and (e) periodic inspections of harvesting operations by state authorities or approved non-governmental forest certification bodies to assure that harvest operations conform to the standards.

Mill Residue Wood
Hogged bark, trim slabs, planer shavings, sawdust, sander dust and pulverized scraps from sawmills, millworks and secondary wood products industries.

Pallet Waste
Unadulterated wood collected from portable platforms used for storing or moving cargo or freight.

Refuse Derived Fuel
The source-separated, combustible, untreated and unadulterated wood portion of municipal solid waste or construction and demolition debris generally prepared by a densification process resulting in a uniformly sized, easy to handle fuel pellet or briquette.

Site Conversion Waste Wood
Wood harvested when forestland is cleared for the development of buildings, roads or other improvements.

Silvicultural Waste Wood
Wood harvested during timber stand improvement and other forest management activities conducted to improve the health and productivity of the forest. The supplier must have and be in compliance with a current Forest Management Plan prepared by a professional forester that includes (a) standards and guidelines for sustainable forest management that require adherence to management practices which conserve biological diversity, maintain productive capacity of forest ecosystems, maintain forest ecosystem health and vitality, and conserve and maintain soil and water resources; (b) a harvest plan following production and harvest standards based on best management practices set forth in guides developed, tested and peer reviewed for USDA and USDOE; (c) the monitoring of harvest operations by a professional forester; (d) the reporting of harvest operations by a professional forester; and (e) periodic

inspections of harvesting operations by state authorities or approved nongovernmental forest certification bodies to assure that harvest operations conform to the standards.

Sustainable Yield Wood (woody or herbaceous)
Woody or herbaceous crops grown specifically for the purpose of being consumed as an energy feedstock (energy crops).

Urban Wood Waste
The source-separated, combustible untreated and uncontaminated wood portion of municipal solid waste or construction and demolition debris. Adulterated forms of wood, such as plywood and particle board, may be used as a feedstock for biogas or liquid biofuel conversion technologies if it can be demonstrated that the technology employed would produce power with emissions comparable to that of biogas or liquid biofuel using only unadulterated sources as feedstock.

Retailers Association of Massachusetts, filed jointly with the Greater Boston Real Estate Board and the Massachusetts Food Association

September 24, 2007

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Re: Proposed DEP and DOER Regulations 310 CMR 7.70 - CO2 Budget Trading Program; 310 CMR 7.29 - Emissions Standards for Power Plants; 310 CMR 7.00 Appendix B (7) - Emission Banking, Trading, and Averaging; 225 MR 13.00 - DOER CO2 Budget Trading Program Auction Regulation

Gentlemen:

We want to thank you for the opportunity to submit these joint comments regarding the above referenced proposed regulations. While others may entertain a vestige of doubt about the impact of CO2 and other "greenhouse gases" on the climate, Massachusetts, other states, and even the federal government are undertaking measures to reduce such emissions. We support approaches to address this issue, although the best approach is on a national or even international level.

Massachusetts has always been in the forefront of environmental protection, including the limitation of CO2 emissions in the Commonwealth embodied in the current DEP "7.29" rule governing the major electricity generating plants in state. It was the first in the nation by several years. These existing rules contain important provisions that make the regulations both effective and responsive to increased electricity costs while achieving the goal of CO2 reduction. With this as the starting point, we want to identify several areas in the proposed regulations where we have concerns.

The proposed rules reflect the "cap and trade" system in RGGI where a budget (limit) of CO2 emissions is assigned to each participating state, those emissions (called "allowances") are owned by the state, and all CO2 emitters in the power plant sector and over a certain output size are required to have sufficient allowances in order to generate electricity. Given this approach a critical issue is how the assigned emission levels for Massachusetts were determined. The RGGI initiative uses an average from the past few years ago rather than data from 1990, which has been viewed almost universally as the benchmark in other regulatory programs. In fact, Massachusetts CO2 emissions have gone down over the past several years while other states in the RGGI program have seen increases. In other words, by using the RGGI emission budget Massachusetts is locked into a lower number from which it must reduce CO2 than other states where emissions have gone up - giving them a higher number from which to reduce CO2. This initial assignment effectively creates an unlevel playing field and tilts greater burdens and higher costs on to Massachusetts generators, and ultimately ratepayers.

Having said this, it is even more important to ensure that the final regulations are flexible enough to accommodate compliance in a cost effective manner. In this regard the existing regulation (7.29) contains a cap on costs while the proposed regulations do not. This should be addressed before the rules are

finalized. Such a mechanism is important because of price volatility experienced in other air emission markets and because a 100 % auction, contained in the proposed rules, has never been attempted before in the United States. A cap would be a valuable fail safe option both for the state and electricity consumers.

In regard to the program itself, there is no doubt that Massachusetts consumers will be paying increased electricity costs. But there remains a significant question about whether the environmental benefits consumers believe they are paying for actually occur. This is so because while CO2 will be reduced over time in states participating in the initiative, existing and future electricity demand is likely to be met by importing lower cost power from states that are not regulating CO2 from their power plants – a likely net increase in CO2 emissions defeating the goal of the initiative. This so-called "leakage" issue is quite serious and should be addressed before the program is fully implemented. Otherwise our members and all consumers will not be getting the CO2 benefits promised.

The proposed auction process presents another concern in the context of costs. The efficacy of a 100% auction of allowances without limitation on bidders could have significant implications. Since such a massive auction has never been conducted before and since parties other than generating facilities can bid (inviting speculation by third parties), the prudent approach would be to follow the RGGI model for an initial 25% allocation producing revenues for the public's benefit - meaning auction 25% or so of the allowances in the first few years. This can be increased in future years after experience has been gained.

Whatever the approach to allocation of allowances, the result will be to generate revenues from ratepayers because the cost of allowances will ultimately be paid by consumers. Depending on the revenue stream from the auction, this fund could be in the tens of millions of dollars. The proposed regulations anticipate DOER keeping the revenue in an existing trust account and using it for programs approved by the Secretary of Energy and Environment Affairs. The administrative distribution mechanism in the proposed rules does not articulate a good process for public input about the how the money will be allocated, particularly since consumers/ratepayers do not appear to part of the approval input process. Beyond that, there is concern that this spending path may be extra legal, which would invite litigation, since there is no appropriation by the Legislature envisioned in the proposed rules.

We remain supportive of rules and programs to reduce CO2 that deliver the benefits promised for the price paid. The RGGI program is at best a stop-gap measure until a national or international program is adopted. When that occurs regulatory efficiency, clarity, and cost effectiveness would suggest that the Massachusetts and the RGGI programs be repealed. Until that takes place we urge the agencies to consider our concerns in the final rule making.

Thank you again for the opportunity to submit our collective views.

Respectfully submitted,

Gregory P. Vasil
President and CEO
Greater Boston Real Estate Board

Christopher P. Flynn
President
Massachusetts Food Association

Jon Hurst
President
Retailers Association of Massachusetts

Union of Concerned Scientists

To: Nicholas Bianco, Massachusetts Department of Environmental Protection

From: John Rogers, Northeast Clean Energy Project Manager, Union of Concerned Scientists

Date: September 24, 2007

Re: Comments on Massachusetts' proposed regulations 310 CMR 7.70, CO2 Budget Trading Program

The Union of Concerned Scientists appreciates this opportunity to submit comments as part of the Commonwealth's rule-making for implementing the Regional Greenhouse Gas Initiative (RGGI). UCS is the leading science-based non-profit working for a healthy environment and a safer world.

We very much appreciate the Massachusetts Department of Environmental Protection's (DEP's) and Division of Energy Resources' (DOER's) extensive process of stakeholder involvement and the diligence of both agencies in ensuring that the Massachusetts rules be strong ones, setting good precedents for other participating states' rulemakings to follow as well as maximizing the value of RGGI as a model for federal policy.

We are pleased to note that DEP citation, in its *Background Information and Technical Support Document* for these proposed regulations, of the findings released in October 2006 of the Northeast Climate Impacts Assessment (NECIA), a collaboration between the Union of Concerned Scientists and more than 50 independent experts from across the country. Those findings looked at the potential changes in temperature, precipitation, and other aspects of the region's climate that could result from continuing on "business as usual" paths of fossil fuel reliance and carbon dioxide emissions. The potential economic and social impacts of those changes on important sectors of the Massachusetts' economy and character, including agriculture, forests, coastal and marine resources, winter recreation, and public health are detailed in the July 2007 NECIA report, *Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions.*[39] These findings, along with the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, are among the latest contributions to a body of science making it clear that avoiding dangerous climate change will require a major transformation of our energy economy, entailing reductions in emissions of carbon dioxide and other heat-trapping gases from developed countries on the order of 80% below current levels by mid-century.

Thus we are pleased that DEP's technical support document also explains the benefits to Massachusetts of acting now to address climate change: early action being more cost-effective than waiting, the environmental co-benefits of reducing carbon emissions, and such efforts driving the development of new technology, increasing energy efficiency and spurring economic development.

While considering strategies to minimize the costs of RGGI is appropriate, NECIA makes clear the costs of "no RGGI," or more generally, the potential cost of the failure of this region, the U.S., and the world to stop the buildup of CO_2 in the atmosphere by mid-century and to have made substantial progress in reducing it by century's end. RGGI's actual target emissions reductions are modest, but it has enormous potential value in demonstrating for national and international audiences the practical ability of governments to implement an effective cap-and-trade program and some proof-of-concept in terms of the economic benefits of supplanting carbon emissions with energy efficiency and renewable energy on a regional scale.

With those premises in mind, our comments focus on the following elements of the proposed rule:

[39] www.climatechoices.org/ne

- We applaud and affirm the Commonwealth's steadfast intent to auction 100% of RGGI emissions allowances.
- We recommend the Early Reduction CO_2 Allowance provisions be deleted, as they are at best inconsistent with – and could even be counterproductive to – the allocation of all allowances by 100% auction.
- We strongly urge the Commonwealth to support its citizens in backing renewable energy and the renewable energy industry and to fully capitalize on an important policy and market tool for reducing emissions by removing the arbitrary limitation on the participation of the voluntary renewable energy market.
- We reiterate our call for greater attention to – in the form of measures to prevent it from the outset of RGGI, not just monitor and measure – the widely acknowledged problem of potential "leakage" under RGGI.
- Given the most recent available data on regional emissions, we encourage the Commonwealth to support a RGGI-wide revisiting of the cap numbers prior to RGGI's launch, in the interests of the program's environmental integrity.

1. Auctioning (nearly) 100% of emissions allowances.

We applaud Massachusetts' commitment to auctioning nearly 100% of emissions allowances as the most economically and politically justifiable policy. The failure to include the social and environmental cost of carbon emissions—and as the Northeast Climate Impacts Assessment describes, the very real economic cost—in the market for the production and use of electricity is a fundamental cause of the problem of global warming. Information in support of 100% auctions is included in brief below.[40]

2. Eliminate the provision for Early Reduction Allowances

We recommend deleting the provision of the proposed rule that provides early reduction allowances (ERAs), as it is at best inconsistent with – and could even be counterproductive to – the decision to allocate all of its allowances by auction. This mechanism to encourage "early action" seemed desirable during the early and middle stages of RGGI's formulation when the method of allowance allocation was still unclear. However, in light of the emerging consensus among participating states that auctioning 100% of allowances is the right policy, such early reductions (along with the efficiency gains and/or cost-savings that motivated them) are their own reward, and ERAs would be an unnecessary compensation. Generators who have achieved such reductions since 2006 (the beginning of the proposed eligibility period) or may achieve them prior to RGGI's effective date of January 1, 2009, will have reduced their need to purchase allowances. Granting such allowances – particularly in light of indications that the regional cap may be too high to begin with (see below) – would run directly counter to RGGI's policy goal.

3. Fully support the voluntary renewable energy market

[40] In creating a "cap-and-trade" system, government is essentially assigning monetary value to something that has previously had no monetized cost—the emission of a pollutant into the Earth's common atmosphere—forcing firms to take into account ("internalize") the full cost of their production. Introducing a requirement for carbon emissions allowances into the market for electricity generation delivers an economic incentive to reduce emissions and puts more efficient and cleaner forms of generation at an advantage. Auctions implicitly reward those with low emissions, requiring them to purchase fewer allowances (while the alternative, free distribution of allowances, constitutes a major windfall for emitters, essentially rewarding them for their past and present production of the social and environmental harm that necessitated the program). Auctions also maintain a "level playing field" among existing and potential new entrants in the market, which is key to effecting the needed shift from carbon intensive electricity sources to more energy-efficient use and less carbon-intensive and emissions-free renewable sources of generation.

We strongly urge that the state remove the proposed cap on RGGI allowance retirements to account for voluntary renewable energy purchases in the state.

In its draft rule, Massachusetts has made the right decision to account for the carbon reductions that come from voluntary purchases by retiring allowances equivalent to the carbon reduction effects of those purchases. As detailed in the attached fact sheet, voluntary renewable energy purchases have been a major driver for the development of renewable energy in the state and region, representing a powerful mechanism for households, businesses, institutions, and government agencies to support renewable energy and reduce the environmental impacts of their energy use. Energy consumers in the state buy from "green power" or renewable energy certificate (RECs) marketers or through their utility or municipal aggregator, including the Cape Light Compact, Mass Energy Consumers Alliance, and National Grid, which offers access to multiple suppliers through its GreenUp program. NSTAR has also proposed a green power program. U.S. EPA's Green Power Partners in Massachusetts include the cities of Boston and Newton, Harvard University, the University of Massachusetts-Lowell, Staples, Mass Audubon, the Union of Concerned Scientists, and others.

Capping the allowable reduction of allowances to account for such voluntary renewable energy purchases, as the draft rule proposes to do, does not serve the state in reaching its RGGI goals. If the arbitrary cap were set significantly higher than likely purchase levels, then it would serve no constructive purpose. If it were low enough to be constrictive, then it would keep the number of available RGGI allowances artificially high, allowing more emissions than warranted given the displacements of fossil-fuel generation by the renewable energy. It would also create significant and market-dampening uncertainty about the carbon claims that Massachusetts customers of Cape Light Compact, Mass Energy, GreenUp, the proposed NSTAR Green program, or many other REC suppliers—or the Commonwealth itself—would be able to make.[41] Would RECs purchased later in the year, once the cap had been exceeded, be deemed to be worth zero carbon benefits, for example, or would the benefits retroactively be pro-rated across all purchases for the year? Any of those outcomes would discourage the market.

Along with dampening the voluntary market for renewable energy, such a cap could also reduce the economic development benefits of renewable energy in the state. If customers are already buying green power or RECs generated within Massachusetts -- or are thinking about it -- the cap would certainly be a strong signal for them to look for sources outside the region. If other states were to follow Massachusetts' lead, renewable energy facilities in the state would find other potential markets in the region similarly restricted. Even facilities selling only into compliance markets (for meeting renewable electricity standards) would likely suffer from the added pressure on those markets caused by the reduction in the alternative, voluntary market. Any of those effects would reduce the potential economic contribution of renewable energy to Massachusetts, just as the cap reduces the climate contribution of that renewable energy.

A continually thriving voluntary market only helps Massachusetts and the region achieve its emissions reduction goals faster, while improving our economic development and energy security. Given our need to use all appropriate policy and market tools to reduce our climate impact, restricting in any way the carbon benefits of the voluntary renewable energy purchases of Massachusetts citizens and institutions does not make sense.

<u>Other comments on the treatment of voluntary renewable energy</u>

Allowance price effects – While allowance retirements based on voluntary renewable energy purchases would reduce the number of allowances available to fossil-fuel generators in the region, because the

[41] The state's planned purchase of green energy for three state agencies, for example, would be equal to some 30,000 allowances, or 15% of the proposed cap; NSTAR's three-year target for its proposed Green program would be equal to another 17%.

production of renewable energy reduces the need for fossil-fuel generation, it would also reduce the demand for allowances.

Geographical restrictions – Because the carbon reductions benefits would be "reversed" only in the case of voluntary purchases based on renewable energy generation within the capped region, the draft Massachusetts rule *is* right to limit the allowance retirements by geography. The limitation to Massachusetts RPS-elegible RECs, however, would exclude some of Massachusetts' RGGI partner states. Such a limitation would cover seven of the RGGI states (New England plus, through import provisions, New York), but leaves Maryland, Delaware, and New Jersey unable to participate. We would suggest that Massachusetts consider retiring allowances for voluntary purchases based on generation in those and other states subsequently covered under the RGGI cap, by extending the limitation to green power/RECs from other RGGI states that are Massachusetts RPS-eligible with regard to technology and vintage.[42]

4. Address leakage

We strongly urge that Massachusetts actively advocate within the State Working Group that proactive solutions to "leakage" to be developed and implemented prior to the program's Jan. 1, 2009, start date. Leakage, the prospect that increased imports of power generated outside the RGGI states by carbon-intensive but unregulated (for carbon dioxide emissions) sources could significantly affect its environmental and other benefits, has been called the potential "Achilles heel" of the RGGI program. Effectively addressing leakage is also important because of its implications for RGGI as a sound model for the ultimate fix to the problem: a well-designed national carbon cap-and-trade program. As one whose economy and character is strongly tied to its historic climate and diverse natural resources, Massachusetts has as great an interest as any state in ensuring that RGGI indeed contributes to the enactment of the effective national and international measures needed to minimize the degree and scope of climate change in this century.

Furthermore, if Massachusetts hopes to realize the environmental co-benefits, as well as the technology-improvement-spurring/economic development effects of RGGI's carbon constraints (which are well-supported by numerous analyses done during the program's crafting), all aspects of their implementation should be aligned to support them. RGGI's current treatment of imported power – essentially, ignoring it – has the effect of discriminating against lower carbon sources within the region in favor of higher-emitting imports. It therefore creates economic incentives for increased power generation and increased development of new dirty power plants outside the region over incentives to develop new clean energy sources within the region.

State Working Group modeling shows that leakage might be expected to account for 40% of the reductions attributable to RGGI. However, actual experience could easily turn out to be far worse than predicted by the modeling. Modeling generally assumes rational long-run economic behavior. Purchases of power from existing coal plants in the Midwest or Atlantic Canada treated as "zero emissions" under RGGI, for example, do not necessarily require long-term commitments, creating incentives for those purchases even over purchases of less expensive long-term, true zero-emission investments within the region. New proposed transmission lines may increase the amount of power that can be imported relative to the modeled scenarios.

The RGGI region is surrounded by proposals to build new conventional coal plants, whose emissions alone could be sufficient to overwhelm all the reductions expected from RGGI. Demand from the RGGI states could contribute to new coal plant construction either directly, through contracts with these plants, or indirectly, by purchase of power from existing plants, enabling companies in the regulated states

[42] UCS's comments apply to renewable energy certificates for which any carbon emissions reduction credit corresponding to the same underlying electricity has not been sold separately.

surrounding RGGI able to "justify" new plant construction, supported by their captive ratepayers, earlier. Modeling by the U.S. Energy Information Administration of the National Commission on Energy Policy proposal, with double the rate of improvement in carbon intensity, under different price cap assumptions, found that 66-85% of overall carbon emission reductions would come from the electricity sector. A primary difference between the reference case and the case with the highest carbon emission reductions was the number of new coal plants built and old coal plants retired. In this scenario, no new conventional coal plants are built beyond those already under construction, although 17 GW of new IGCC coal plants with carbon capture and storage are built. Even so, overall carbon emissions are barely lower in 2030 than in 2003. It is thus vital that RGGI not inadvertently contribute to construction of new coal plants outside the region.

Leakage must not be allowed to remain a "back-door" cost-control mechanism that undermines RGGI's effectiveness and credibility while setting a poor policy precedent. Leaving the door open to leakage by a "wait and see" approach, putting in place only the capacity to measure it precisely but not policies to prevent it, risks undercutting and discrediting the program from the outset. Finally, the adage "an ounce of prevention worth a pound of cure" applies here; it will be much harder both economically and politically to fix leakage once it has occurred than to prevent it from the outset.

5. Closely monitor emissions trends and consider revisiting the regional cap

We urge that Massachusetts participate in regional efforts to closely monitor emissions trends and consider revisiting the regional cap. UCS and many others have consistently expressed the concern that RGGI's emissions cap for the now-ten participating states is relatively "soft," reflecting the cautious economic and political calculus governing its establishment, and the need to project several years into the future. Recent analyses of 2003-2006 regional emissions data indicate that the assumed growth in emissions is not materializing (influenced by a variety of factors), and that by the launch of RGGI in 2009, actual emissions in the region could be from 4.4% to as much as 15% below the cap. This would obviously not be consistent with the stated policy intent of the program, which was to stabilize and then reduce emissions 10% below "business as usual" from 2009 to 2019.

If this situation persists until the launch of the program in 2009, it could severely undermine the integrity and credibility of RGGI, which is being very closely watched as debate over a potential national cap-and-trade trade program progresses. It is imperative that RGGI avoid repeating the experience of the first phase of the European Union Emissions Trading System, which had a huge surplus of allowances, leading to a crash in allowance prices, and most importantly, failure to deliver promised emissions reductions from the covered sectors.

* * *

Thank you very much for your consideration of these comments, and for your and your colleagues' continued efforts to implement this landmark program in a way that is fundamentally effective and fair, and provides a successful model for a solid national program.

RGGI, Climate Change, and the Voluntary Renewable Energy Market: Getting It Right

The default RGGI Model Rule puts at risk the rapidly growing and very important voluntary renewable energy market, potentially making it more difficult and expensive for the region to achieve its climate goals. An option within the Model Rule could fix the problem, but each Northeast state must take deliberate action to do so.

The Model Rule for the Regional Greenhouse Gas Initiative, agreed to in 2006, while providing for no allocation of allowances to renewable energy facilities or generation, includes an optional clause to guide a pre-allocation (or pre-auction) retirement of allowances based on voluntary renewable energy purchases in each state. The clause provides a straight-forward

mechanism for ensuring that buyers and sellers in the voluntary renewable energy market can claim carbon benefits as a result of their transactions regardless of where the renewable energy is generated.

Renewable energy is very important to the Northeast's energy development, as a carbon-neutral energy option and as the only indigenous energy supply option for much of the region. Its use can be dramatically increased while saving consumers money, bolstering local economic development, and reducing exposure to fossil fuel price volatility, supply shortages and interruptions, energy security challenges, and environmental impacts. In the case of RGGI in particular, renewable energy can play a very important role in addressing climate change, furthering the goals of minimizing the carbon intensity of the region's power generation cost-effectively and sustainably.

Voluntary renewable energy purchases, in turn, have been very important to the development of renewable energy in the region, and in the country as a whole. Such purchases, also known as "green power" purchases, are "a powerful market support mechanism" by which individuals, businesses, and government agencies support renewable energy development and reduce their environmental impacts:

- Green power sales have grown 40 to 60% annually in recent years. Retail sales in 2005 totaled 8.5 million megawatt-hours—about 0.2% of total U.S. electricity sales; the Northeast was responsible for most of that year's customer growth.
- Voluntary green power markets supported more than one-fifth of new renewable energy capacity additions nationwide from 1997 to 2005.
- In the Northeast, most of this demand growth is from corporations, institutions, and governments. A growing number of towns, colleges, and universities are voluntarily committing to purchase 20% renewable electricity by 2010. Various states in the region have invested significantly in supporting the growth of renewable energy purchases, as has the federal government.

While consumers voluntarily purchase renewable energy for a variety of reasons, creating environmental benefits is a chief driver. Many corporations and institutions in particular are motivated by a desire to address climate change.

States would be well served by adopting the optional clause. State support for the voluntary market through inclusion of the clause would likely have little effect on RGGI allowance auctions—on either prices or on total revenues collected. State rejection, by contrast, would strongly undermine an important driver for the development of renewable energy, because the voluntary purchases would not result in retirement of any allowances, and sellers and purchasers could make no greenhouse gas reduction claims. This situation could endanger the development of new local low- or zero-emission facilities even beyond those directly looking to serve the voluntary market, reduce local economic benefits, and reduce RGGI's effectiveness in promoting long-term responses to climate change.

Why each RGGI state should adopt the Model Rule option related to voluntary renewable energy:

- **Adopting the Model Rule option will avoid reversing the carbon-reduction benefits of voluntary purchases.** Renewable energy generation displaces fossil-fuel generation and the associated carbon emissions. Were allowances not retired for voluntary purchases based on renewable energy generated within the RGGI region, fossil-fuel generators covered by RGGI would continue to emit at the level of the emissions cap—despite the reductions in emissions based on generation displaced by the renewable energy. The carbon-reduction effect of the voluntary purchases would be reversed.
- **Adopting the Model Rule option will avoid strongly undercutting voluntary purchases.** The failure to support the voluntary market through adoption of the clause would likely severely undercut voluntary purchases of renewable energy from in-state or in-RGGI renewable energy facilities. Without an ability to make such claims for reduction of carbon emissions, green power purchasers would be able to claim substantially less environmental benefit, despite the displacement of higher-carbon generation. That limitation would likely considerably reduce the market appeal of voluntary renewable energy offerings in the RGGI region, or shift sales to out-of-region renewable energy facilities.
- **Adopting the Model Rule option will support local economic development.** A lack of RGGI allowance retirements commensurate with voluntary renewable energy purchases would affect not just the markets for those purchases, but siting of renewable energy facilities in the region in general. Without corresponding carbon allowance retirements, opponents can claim that such facilities will not reduce carbon—as they have already done with other pollutants. Such claims, justified or not, can contribute to the rejection of proposed projects. While the voluntary renewable energy market is just one possible target of new renewable energy facilities, the lack of allowance retirement could undercut local facilities much more broadly.
- **Adopting the Model Rule option is consistent with 100 percent auctions.** Given the small scale of allowance retirements based on the voluntary market, their inclusion would be fully consistent with the spirit of 100 percent auctions. Rhode Island's recent RGGI legislation, indeed, explicitly recognizes this fact, mandating the auction of 100 percent of allowances, then immediately allowing for retirement of a "de minimus portion of allowances… to support the voluntary renewable energy provisions of the [RGGI] model rule." Connecticut's RGGI legislation calls for auctioning all allowances but allows the state to use "a portion of the allowances" to support the voluntary market under RGGI. As with in-region generators covered by RGGI, no allowances would be assigned or given away to renewable energy facilities.
- **Adopting the Model Rule option will not appreciably affect allowance prices.** Because of the small carbon emissions reductions from the retail green power market relative to RGGI state carbon "budgets", including the optional clause in a state's RGGI rule would likely have very limited effect on allowance availability, and therefore on prices. Current levels of voluntary purchases within the RGGI region would correspond to well under one percent of the RGGI cap in 2015. Other factors such as natural gas prices, emissions control technology developments, energy demand, and even auction design would likely have much greater effects on allowance-price changes.
- **Adopting the Model Rule option will not cause states to lose revenue.** The very limited reduction of available allowances because of retirements based on the voluntary market would have even less effect on overall state auction revenue because any decrease would likely be offset by a corresponding (and correspondingly small) increase in allowance prices.

Legislative and administrative rule-making for implementing RGGI in each state must adopt the Model Rule's optional clause related to voluntary renewable energy purchases to allow voluntary actions to continue to play a significant role in advancing

Urban Ecology Institute

Sept. 21, 2007

Dear Mr. Bianco and Mr. Sydney:

I am writing to commend both the Department of Environmental Protection and the Division of Energy Resources for taking a significant step toward slowing climate change by proposing the RGGI rules. In addition, this letter sets forth comments on the proposed regulations. My comments fall into three categories: 1) the proposed regulations should be clarified to include urban tree planting projects as offset projects, either as afforestation projects or as a separate category of offset projects, 2) the positive effect that strategically placed trees have on the efficiency of heating or cooling buildings should qualify as an offset project, either as part of an offset project under 310 CMR 310 CMR 7.70 (10)(b)(4) or as a separate category of offset projects, and 3) the funds resulting from the sale of allowances should be used, in part, to fund urban tree planting projects.

First, as context for my comments, here is some information about how trees mitigate the effects of global warming and about how carbon sequestered or avoided due to trees can be measured: Trees can slow climate change by sequestering carbon dioxide and by improving the energy efficiency of buildings. In fact, 100 trees can remove five tons of carbon dioxide per year. The amount of carbon dioxide sequestered over the lifetime of a single tree depends, in part, on whether the tree grows relatively quickly or relatively slowly, and on the lifespan of the tree. A single fast-growing tree can sequester 5,420 pounds of carbon dioxide over a typical 30 year lifespan, while a single slow-growing tree can sequester 7100 pounds of carbon dioxide over a typical 60 year lifespan. (McPherson, EG. and Simpson, J.R. *Carbon Dioxide Reduction Through Urban Forestry: Guidelines for Professional and Volunteeer Tree Planters.* (1999). USDA Forest Service, Pacific Southwest Research Station, General Technical Report PSW-GTR-171. p. 4.) In addition, there are scientific methods that can be used to determine the specific amount of carbon sequestered by trees in urban contexts, thereby making it feasible to accurately determine both the amount of carbon sequestered by existing urban trees and the amount of carbon sequestered by new urban trees. These methods are outlined by D. J. Nowak, D.E. Carne, J.C. Stevens, and R.E. Hoehn in *The Urban Forest Effects (UFORE) Model: Field Data Collection Manual.* (2005) USDA Forest Service, Northeastern Research Station, 5 Moon Library, SUNY-ESF, Syracuse, NY 13210. Moreover, strategically placed trees can increase the energy efficiency of a building. In the summer, strategically placed trees reduce the need for air conditioning. Strategically placed trees can also reduce windspeed or block the infiltration of outside air into interior spaces, thereby reducing the need for heat in the winter. A single well-placed deciduous tree can result in 10%-15% of annual energy savings due to reductions in air conditioning needs, and a single tree placed as a windbreak can reduce a typical home's heating demand by 1%-3%. For a typical residence, a single well-placed tree can result in 5%-20% in annual energy savings due to less demand for both heating and cooling. (McPherson, EG. and Simpson, J.R. *Carbon Dioxide Reduction Through Urban Forestry: Guidelines for Professional and Volunteeer Tree Planters.* (1999). USDA Forest Service, Pacific Southwest Research Station, General Technical Report PSW-GTR-171. pp. 5-6.) Scientific methods for calculating energy savings resulting from strategically placed trees are outlined by McPherson, EG. and Simpson, J.R. in *Carbon Dioxide Reduction Through Urban Forestry: Guidelines for Professional and Volunteeer Tree Planters.* (1999). USDA Forest Service, Pacific Southwest Research Station, General Technical Report PSW-GTR-171.

Comment #1: The proposed regulations should be clarified to include urban tree planting projects as offset projects, either as afforestation projects or as a separate category of offset projects.

As context, let me provide an example of an ongoing urban tree planting project. Grow Boston Greener (GBG) is a new initiative co-sponsored by the city of Boston and its nonprofit partners in the Boston Urban Forest Coalition (BUFC.) The goal of GBG is to increase Boston's urban tree canopy by planting 100,000 new trees by 2020, most of them in environmental justice neighborhoods. Most of the trees will be/are planted on residential property, and the trees will be cared for by the property owner.

Because of the nature of urban tree planting projects, it is difficult for such projects to meet some of the requirements for afforestation projects in the proposed regulations. Specifically, the following requirements in the proposed regulations are inconsistent with the nature of urban tree planting projects: the size requirement in the definition of "forested condition" set forth in 310 CMR 7.70(10)(b), the requirement that newly-forested land be under a "permanent conservation easement" pursuant to 310 CMR 7.70(10)(e)(3)(b)(iii) and 310 CMR 7.70(10)(e)(3)(f)(i), and the requirement that afforestation projects have in place a forest (as opposed to a tree) management plan pursuant to 310 CMR 7.70(10)(b)(3)(b)(v). Attached is an amended version of the proposed 310 CMR 7.70(10)(b)(3) that addresses our concerns so as to make it feasible for urban tree planting projects to qualify as offset projects while still ensuring that reductions in carbon dioxide resulting from such projects are permanent. In addition, the attached version amends 310 CMR 7.70(10)(b)(3)(c)(viii) to allow the amount of carbon sequestered by urban tree planting projects to be directly measured according to the guidance outlined by Nowak, et. seq. This measurement protocol is both accurate and appropriate for urban tree planting projects.

Comment #2: The positive effect that strategically placed trees have on the efficiency of heating or cooling buildings should qualify as an offset project, either as part of an offset project under 310 CMR 7.70 (10)(b)(4) or as a separate category of offset projects.

The regulations should make clear that reductions in carbon dioxide emissions due to planting trees in strategic locations, or locating a new building strategically so as to take advantage of existing trees, qualify as offset allowances. Specifically, energy efficiencies gained from strategically planting trees or locating buildings near trees should qualify as an offset project that reduces carbon dioxide emissions by "the energy efficient delivery of energy services" (see proposed 310 CMR 7.70 (10)(b)(4), and specifically as a "measure that improves the thermal performance of the building envelope and/or reduces the building envelope air leakage" pursuant to proposed 310 CMR 7.70(10)(b)(4)(a)(v). One way to clarify the regulations is to add the following language after the word "leakage" in 310 CMR 7.70(10)(b)(4)(a)(v): "including, but not limited to, strategically planting a new tree or locating a new building near an existing tree."

Comment #3: The funds resulting from the sale of allowances should be used, in part, to fund urban tree planting projects.

Because urban tree planting projects decrease summer temperatures, they decrease the need for air conditioning in the summer, and consequently, reduce the demand for electricity. Therefore, such projects meet the goals of "cost minimization to electricity customers and the promotion of energy efficiency, reliability, demand response, peak shaving (the reduction of peak energy usage)" pursuant to 225 CMR 13.06(8). As such, funds from the Division's Credit Trust Account pursuant to 225 CMR 13.06(8) should be used to fund urban tree planting projects. In addition, the advisory group convened pursuant to 225 CMR 13.06(8) should include representatives from the Urban Ecology Institute.

Again, we commend both DEP and DOER for taking this significant step toward addressing climate change, and thank you for the opportunity to comment on the proposed regulations. If you have questions about our comments, including questions about how to calculate the amount of carbon dioxide sequestered or avoided due to urban forestry or strategically placed trees, please contact me at 617- 552-0928 or lordca@bc.edu.

Sincerely,

Charlie Lord
Executive Director

The following amended version of 310 CMR 7.70(10)(e)(3) shows how the proposed regulations should be amended to address our concerns set forth in Comment #1. Our proposed amendments are bolded.

3. Sequestration of carbon due to afforestation. Offset projects that sequester carbon through the conversion of land from a non-forested to forested condition shall qualify for the award of CO_2 offset allowances under 310 CMR 7.70(10), provided they meet the requirements of this 310 CMR 7.70(10)(e)3.

a. Eligibility **for rural afforestation projects.**

i. Eligible offset projects shall occur on land that has been in a non-forested state for at least 10 years preceding the commencement of the offset project.

ii. Eligible offset projects shall be managed in accordance with widely accepted environmentally sustainable forestry practices and designed to promote the restoration of native forests by using mainly native species and avoiding the introduction of invasive nonnative species. If commercial timber harvest activities are to occur, certification of these activities must be obtained, prior to any harvest activities at the site, through the Forest Stewardship Council (FSC), Sustainable Forestry Institute (SFI), American Tree Farm System (ATFS), or such other similar organizations as may be approved by the Department.

#. Eligibility for urban afforestation projects.

i. Project specifications, including the boundaries of the project, shall be specified in the consistency application pursuant to 310 CMR 7.70(10)(d)(3), prior to the commencement of the project.

b. Offset project description. The offset project sponsor shall provide a detailed narrative of the offset project actions to be taken, including documentation that the offset project meets the eligibility requirements of 310 CMR 7.70(10)(e)3.a. The offset project narrative shall include the following information.

i. Owner of the land within the offset project boundary;

ii. Detailed map of the land within the offset project boundary and areas adjacent to the offset project boundary;

iii. A copy of the permanent conservation **easement or Comprehensive Plan, Master plan, or other acceptable form of long-term protection** required pursuant to 310 CMR 7.70(10)(e)3.f.;

iv. For offset projects located in a state or United States jurisdiction that is not a participating state, a written legal opinion from an attorney licensed to practice in the state where the offset project is located, or from the cooperating regulatory agency, confirming the enforceability of the permanent conservation easement **or other form of long-term protection**; and

v. Plant species to be planted or established via natural regeneration, and a forest **or tree** management plan consistent with the requirements at 310 CMR 7.70(10)(e)3.a.ii.

c. Carbon sequestration baseline determination. The existing sequestered carbon within the offset project boundary shall be calculated prior to commencement of the offset project. The carbon sequestration baseline shall be determined based on a sum of measurements, made no more than 12 months prior to offset project commencement, of the carbon content of the following carbon pools.

i. Carbon content shall be calculated for the following required carbon pools:

(i) live aboveground tree biomass;

(ii) live belowground tree biomass;

(iii) soil carbon; and,

(iv) dead organic matter, coarse woody debris, unless the baseline measurement for this carbon pool is at or near zero, in which case measurement of this carbon pool during the allocation period is optional.

ii. Carbon content may be calculated for the following optional carbon pools:

(i) live aboveground non-tree biomass; and,

(ii) dead organic matter, forest floor.

iii. Carbon content shall be calculated individually for each carbon pool within the offset project boundary.

iv. To increase the accuracy of measurement and verification, the area within the offset project boundary shall be divided into subpopulations that form relatively homogenous units. When defining subpopulations, the project sponsor shall consider vegetation and tree species (including existing vegetation and trees and those to be utilized as part of the offset project activity) and site factors (soil type, elevation, slope, age class, and other factors as warranted).

v. Calculation of sequestered carbon for each carbon pool in each reporting subpopulation shall be based on the following:

CO_2 tons = [(A x C/ha)(44 g/mol CO_2/12 g/mol C)] / 0.9072 metric tons/short ton

where:

A = Area in hectares within each reporting subpopulation;

C = Carbon content (metric tons of carbon for each carbon pool); and,

C/ha = Mean carbon content per hectare for each carbon pool.

vi. Total carbon contained within the offset project boundary (represented in CO_2 tons, calculated pursuant to 310 CMR 7.70(10(e)3.c.v.) shall be calculated as follows:

$TC_{pb} = TC_{latb} + TC_{lbtb} + TC_s$ [+ $TC_{lantb} + TC_{doff} + TC_{docwd}$]
where:
TC_{pb} = Total carbon content within the offset project boundary (sum of carbon content of all carbon pools in all reporting subpopulations);
TC_{latb} = Sum of carbon content of live aboveground tree biomass in all reporting subpopulations;
TC_{lbtb} = Sum of carbon content of live belowground tree biomass in all reporting subpopulations;
TC_s = Sum of carbon content of soil carbon in all reporting subpopulations;
TC_{lantb} [option] = Sum of carbon content of live aboveground non-tree biomass in all reporting subpopulations;
TC_{doff} [option] = Sum of carbon content of dead organic matter, forest floor in all reporting subpopulations; and,
TC_{docwd} [mandatory/option, as applicable pursuant to 310 CMR 7.70(10)(e)3.c.i.(iv)] = Sum of carbon content of dead organic matter, coarse woody debris in all reporting subpopulations.

vii. Each individual carbon pool to be measured must be directly measured using a measurement protocol and sample size that achieves a demonstrated quantified accuracy for the combined carbon pool measurement such that there is 95% confidence that the resulting reported value is within 10% of the true mean. Measurement and sampling practices shall meet the following requirements:

(i) An adequate sample size that meets the requirements of 310 CMR 7.70(10)(e)3.c.vii. shall be determined for each subpopulation.

(ii) The minimum number of required sampling plots for each subpopulation shall not be less than 30, and shall be determined based on the following:

$n = [(s \times 1.960)/(mean \times re)]^2$

where:

n = required number of sample plots for each reporting subpopulation;
s = standard deviation;
mean = mean reported carbon content for the sample population; and,
re = level of sampling error (0.08) to assure a total maximum error of 10% for the 95% confidence interval, which assumes total error due to measurement error of 0.02.

viii. Direct measurement procedures shall be consistent with current forestry good practice and the guidance contained in U.S. Department of Energy, Technical Guidelines Voluntary Reporting of Greenhouse Gases (1605(b)) Program; Chapter 1, Emissions Inventories; Part 1 Appendix: Forestry; Section 3: Measurement Protocols for Forest Carbon Sequestration (March 2006) **and/or Nowak, D.J., Crane, D.E., Stevens, J.C. and R.E. Hoehn. 2005. The Urban Forest Effects (UFORE) Model: Field Data Collection Manual. USDA Forest Service, Northeastern Research Station, 5 Moon Library, SUNY-ESF, Syracuse, NY 13210. 34 pp..**

d. Calculating carbon sequestered. Carbon sequestration shall be determined using a base year approach, where the amount of carbon sequestered is measured as a net increase in carbon relative to the base year measurement.

Carbon sequestration shall be the amount of net additional carbon sequestered during each reporting period, based upon aggregate carbon uptake and carbon emissions for the sum of carbon pools, relative to the baseline carbon content or the carbon content as of the previous reporting period (if above the baseline carbon content), as applicable. CO_2 offset allowances shall be issued based on the amount of net additional carbon sequestered within the offset project boundary during each reporting period, as represented in tons of CO_2. Sequestered carbon shall be calculated using a stock-change approach as follows:

$NCS_t = I_t - I_{t-1}$

where:

NCS_t = Net carbon sequestered in reporting period t;

I_t = Inventory of carbon stock for all carbon pools in all reporting subpopulations within the offset project boundary in reporting period t; and,

I_{t-1} = Inventory of carbon stock for all carbon pools in all reporting subpopulations within the offset project boundary in the reporting period immediately preceding reporting period t.

i. Except as provided in 310 CMR 7.70(10)(e)3.c.i.(iv), each of the carbon pools that were measured as part of the baseline determination must be re-measured using the same methodology, and to the same or better quantified precision consistent with the requirements of 310 CMR 7.70(10)(e)3.c.vii. and viii., as that used for the baseline determination.

ii. The net change in each carbon pool's carbon stock in each reporting subpopulation is calculated by subtracting the baseline carbon stock (or carbon stock at the previous monitoring, if above the baseline carbon content) from the carbon stock at the time of the current monitoring. Determination of carbon stock shall be in accordance with the formulas and procedures in 310 CMR 7.70(10)(e)3.c.

iii. Net carbon stock change for the offset project is the sum of the net changes in the carbon stock of all applicable pools in all reporting subpopulations within the offset project boundary, less ten percent (10%) to account for potential losses of sequestered carbon; however, this 10% discount shall not be required, provided the project sponsor retains long-term insurance, approved by the Department, that guarantees replacement of any lost sequestered carbon for which CO_2 offset allowances were awarded
pursuant to 310 CMR 7.70(10)(g)1.a.

e. Monitoring and verification requirements. Total carbon stock within the offset project boundary shall be calculated not less than every five years. Monitoring and verification is subject to the following requirements.

i. Monitoring and verification reports shall include data from direct measurement of carbon content for all plots used to determine baseline and reporting period carbon content.

ii. The project sponsor shall provide a monitoring and verification plan as part of the consistency application. The monitoring and verification plan shall be certified by an independent verifier accredited pursuant to 310 CMR 7.70(10)(f). The monitoring and verification plan shall include the following:

(i) Direct carbon measurement procedures consistent with the requirements at 310 CMR 7.70(10)(e)3.c.viii.;

(ii) The designation of subpopulations pursuant to 310 CMR 7.70(10)(e)3.c.iv. The determination of the minimum number of sampling plots pursuant to 310 CMR 7.70(10)(e)3.c.vii.; and,

(iii) If commercial timber harvest activities have occurred or will occur, an assessment of management practices to ensure that the offset project has been or will be managed in accordance with environmentally sustainable forestry practices consistent with the Forest Stewardship Council (FSC), Sustainable Forestry Institute (SFI), American Tree Farm System (ATFS), or such other similar organizations as may be approved by the Department.

f. Carbon sequestration permanence. The offset project shall meet the following requirements to address permanence of sequestered carbon.

i. The project sponsor shall place the land within the offset project boundary under a legally binding permanent conservation easement, c**omprehensive plan, master plan, or other form of long-term protection** approved by the Department, that requires the land to be maintained in a forested state in perpetuity.

ii. The conservation easement, c**omprehensive plan, master plan, or other form of long-term protection** shall include a requirement that the carbon density within the offset project boundary be maintained at long-term levels at or above that achieved as of the end of the CO_2 offset crediting period pursuant to 310 CMR 7.70(10)(c)5.b.

iii. The conservation easement **comprehensive plan, master plan, or other form of long-term protection** shall require that the land be managed in accordance with environmentally sustainable forestry **or arboricultural** practices.